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COST IN U.S. DOLLARS
SINCE FILE
ENTRY
TOTAL
SESSION
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0.21
FULL ESTIMATED COST

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DICTIONARY FILE UPDATES: 26 JUL 2004 HIGHEST RN 717086-44-7

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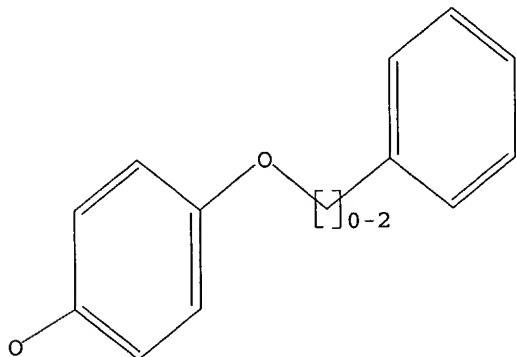
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Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
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<http://www.cas.org/ONLINE/DBSS/registryss.html>

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Uploading C:\STNEXP4\QUERIES\hydroquinone.str

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



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=> s l1 full
FULL SEARCH INITIATED 17:24:14 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 292776 TO ITERATE
100.0% PROCESSED 292776 ITERATIONS 64718 ANSWERS
SEARCH TIME: 00.00.02

L2 64718 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL
 ENTRY SESSION
FULL ESTIMATED COST 155.84 156.05

FILE 'CAPLUS' ENTERED AT 17:24:48 ON 27 JUL 2004
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FILE COVERS 1907 - 27 Jul 2004 VOL 141 ISS 5
FILE LAST UPDATED: 26 Jul 2004 (20040726/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 12 full
L3 62768 L2

=>

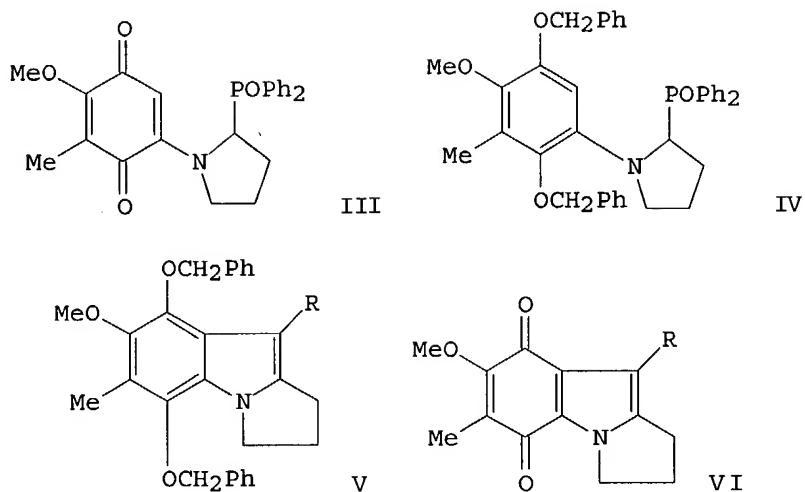
=> s 13 and hydroquinone
L4 43309 HYDROQUINONE
1872 L3 AND HYDROQUINONE

=> s 14 and benzylation
L5 9621 BENZYLATION
20 L4 AND BENZYLATION

=> s 15 and aldehyde
L6 97087 ALDEHYDE
2 L5 AND ALDEHYDE

=> d 1-2 bib abs

L6 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:651106 CAPLUS
DN 117:251106
TI Synthesis of mitosenes from N-aryl-2-(diphenylphosphinyl)pyrrolidines
AU Van der Steeg, M.; Zorgdrager, J.; Schreurs, H.; Van der Gen, A.
CS Dep. Org. Chem., Leiden Univ., Leiden, 2300 RA, Neth.
SO Recueil des Travaux Chimiques des Pays-Bas (1992), 111(9), 402-6
CODEN: RTCPA3; ISSN: 0165-0513
DT Journal
LA English
OS CASREACT 117:251106
GI



AB A new route for the construction of the mitosene skeleton was developed using 2-(diphenylphosphoryl)pyrrolidine (I) and 2-methoxy-3-methyl-1,4-benzoquinone (II) as starting materials. Regioselective oxidative addition of I to II gave 5-substituted pyrrolidinylbenzoquinone III. Protection of the quinone function by reduction, followed by in-situ reaction with benzyl bromide, gave the bis-benzylated product IV. Using a recently developed route to pyrrolo[1,2-a]indoles, IV was converted into the protected mitosenes V (R = Me, Et, 4-MeC₆H₄, PhSCH₂CH₂). Debenzylation and subsequent oxidation of V produced the mitosenes VI in good yields.

L6 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1977:584732 CAPLUS

DN 87:184732

TI Antioxidant chroman compounds

IN Scott, John William; Parrish, David Richard; Saucy, Gabriel

PA Hoffmann-La Roche, Inc., USA

SO U.S., 31 pp. Division of U.S. 3,947,473.

CODEN: USXXAM

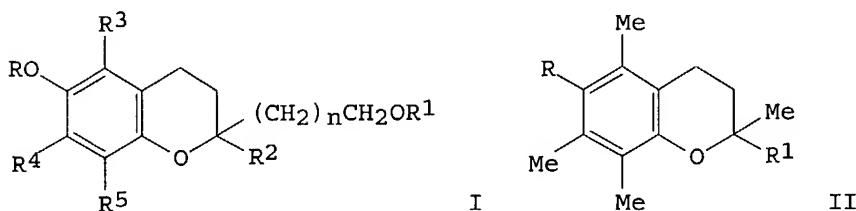
DT Patent

LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4026907	A	19770531	US 1975-637548	19751204
	US 3947473	A	19760330	US 1973-417465	19731119
	CH 622257	A	19810331	CH 1976-14579	19761119
PRAI	US 1972-317566		19721222		
	US 1973-417465		19731119		
	CH 1973-17771		19731219		

GI



EPP 3/00

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AB Chroman derivs. I (R, R1 = H, PhCH2, Ph2CH, Ph3C, alkoxy, alkyl, tetrahydropyranyl, acyl; R2 = H, alkyl, Ph; R3, R4, R5 = H, alkyl, n = 0,1) useful as antioxidants for oils, fats, and waxes and as intermediates in the preparation of optically active tocopherols, were prepared. Thus, II (R

= AcO, R1 = OH), prepared by condensation of trimethyl hydroquinone, (MeO)3CH, and MeCOCH:CH2, followed by acetylation and demethylation, was treated with (MeO)2P(O)CH2CO2Me and saponified to give II (R = HO, R1 = CH2CO2H). Acetylation of the latter followed by chlorination gave the acid chloride which was reduced to the aldehyde II (R = AcO, R1 = CH2CHO). The (+)-aldehyde treated with (+)-BrCH2CHMe(CH2)3CHMe(CH2)3CHMe2 gave 2RS,4'RS,8'RS-2',3'-dehydro- α -tocopheryl acetate, which was hydrogenated to the racemic α -tocopheryl acetate.

=> d 1-20 bib abs 15

L5 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:302609 CAPLUS

DN 141:23240

TI Scope and limitations of lithium-ethylenediamine-THF-mediated cleavage at the α -position of aromatics: deprotection of aryl methyl ethers and benzyl ethers under mild conditions

AU Shindo, Takeyuki; Fukuyama, Yasuaki; Sugai, Takeshi

CS Department of Chemistry, Keio University, Yokohama, 223-8522, Japan

SO Synthesis (2004), (5), 692-700

CODEN: SYNTBF; ISSN: 0039-7881

PB Georg Thieme Verlag

DT Journal

LA English

AB The scope and limitations of lithium-ethylenediamine-THF-mediated reductive bond cleavage at the α -position of aroms. were examined. Very mild conditions such as lithium metal and ethylenediamine, in oxygen-free THF, were quite effective for the demethylation of aromatic ethers even at as low as -10°C. Allyl benzyl ethers were also deprotected under these conditions with very little change of the allylic alc. moiety. 2,6-Dimethylbenzyl ether was developed as an alternative to benzyl ether, which was readily cleaved under these conditions.

RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

NPA

L5 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:644249 CAPLUS

DN 139:337834

TI Highly enantioselective resolution of terminal epoxides with crosslinked polymeric salen-Co(III) complexes

AU Song, Yuming; Chen, Huilin; Hu, Xinquan; Bai, Changmin; Zheng, Zhuo

CS Dalian Institute of Chemical Physics, The Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China

SO Tetrahedron Letters (2003), 44(37), 7081-7085

CODEN: TELEAY; ISSN: 0040-4039

PB Elsevier Science B.V.

DT Journal

LA English

OS CASREACT 139:337834

AB Crosslinked polymeric salen-Co(III) complexes derived from a novel dialdehyde and a trialdehyde were synthesized and employed in the hydrolytic kinetic resolution of terminal epoxides. Up to 99% ee was obtained with only 0.16-0.02 mol % of catalyst (based on catalytic unit).

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD

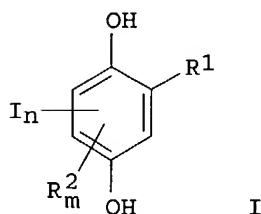
NPA

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1997:281016 CAPLUS
 DN 126:293344
 TI Molecular Meccano. 17. Translational Isomerism in Some Two- and Three-Station [2]Rotaxanes
 AU Amabilino, David B.; Ashton, Peter R.; Boyd, Sue E.; Gomez-Lopez, Marcos; Hayes, Wayne; Stoddart, J. Fraser
 CS School of Chemistry, University of Birmingham, Birmingham, B15 2TT, UK
 SO Journal of Organic Chemistry (1997), 62(10), 3062-3075
 CODEN: JOCEAH; ISSN: 0022-3263
 PB American Chemical Society
 DT Journal
 LA English
 AB The template-directed syntheses of three [2]rotaxanes are described. They all have dumbbell components, with both **hydroquinone** and resorcinol rings inserted into polyether chains terminated by tetraarylmethane stoppers, that become encircled during the key self-assembly processes by the tetracationic cyclophane, cyclobis(paraquat-p-phenylene), with its two π -electron deficient bipyridinium units. It has been demonstrated by low-temperature ^1H NMR spectroscopy that the π -electron deficient tetracationic cyclophane has a remarkably high preference for residing around the resorcinol ring in these mol. shuttles. This observation illustrates how a very small constitutional difference (**hydroquinone** vs. resorcinol recognition sites) can lead to the overwhelming preference for one translational isomer over another in this particular range of [2]rotaxanes.

L5 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1996:508718 CAPLUS
 DN 125:154292
 TI Silver halide color photographic material containing iodinated **hydroquinone** derivative or its alkali-unstable precursor
 IN Shimura, Yoshio; Matsumoto, Keisuke; Ono, Michio
 PA Fuji Photo Film Co Ltd, Japan
 SO Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
PI JP 08122987	A2	19960517	JP 1994-277251	19941018
PRAI JP 1994-277251				
OS MARPAT 125:154292				
GI				



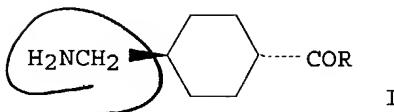
AB The photog. material contains a **hydroquinone** derivative I [R1 = OR3,

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SR₃, NHCO₂R₃, NHCO₂R₃R₄, SO₂NR₃R₄; R₂ = H, halo, (substituted) alkyl, (substituted) acyl, (substituted) acylamino, (substituted) sulfonylamino, (substituted) alkoxy, (substituted) aryloxy, (substituted) alkylthio, (substituted) arylthio, SO₃H, carbamoyl, sulfamoyl; R₃, R₄ = (substituted) alkyl, (substituted) aryl, (substituted) heterocycl; R₃ ≠ H; R₂, R₃, and/or R₄ may form ring; n = 1-3; m = 0-2]. The material shows good storage stability and gives low-fog images.

L5 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:580209 CAPLUS
DN 121:180209
TI Preparation of tranexamic acid derivative and dermatologic preparation containing the same
IN Ohnuma, Manami; Suetsugu, Masaru; Shinojima, Satoshi; Fujinuma, Yoshimori; Morikawa, Yoshihiro; Yamase, Yuki; Akiyama, Naoe; Kitamura, Kenji
PA Shiseido Co., Ltd., Japan
SO PCT Int. Appl., 57 pp.
.CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9402444	A1	19940203	WO 1993-JP1021	19930722
	W: KR, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 06041032	A2	19940215	JP 1992-216290	19920722
	JP 3137753	B2	20010226		
	JP 06072975	A2	19940315	JP 1992-252322	19920827
	JP 3137762	B2	20010226		
	JP 06072974	A2	19940315	JP 1992-252323	19920827
	EP 604667	A1	19940706	EP 1993-916204	19930722
	R: DE, FR, GB, IT				
PRAI	JP 1992-216290	A	19920722		
	JP 1992-252322	A	19920827		
	JP 1992-252323	A	19920827		
	WO 1993-JP1021	W	19930722		
OS	MARPAT	121:180209			
GI					



AB Tranexamic acid derivs. (I; R = a residue of a 6-membered ring containing an ester or amide linkage) are prepared I have excellent effects of beautifying skin and ameliorating skin chaps. Thus, tranexamic acid was acylated by PhCH₂O₂CCl in 10% aqueous NaOH under ice-cooling to give 92% trans-4-(benzyloxycarbonylaminomethyl)cyclohexanecarboxylic acid which was treated with SOC₁₂ at 40° for 30 min and condensed with benzyl 5-benzyloxy-2-hydroxybenzoate (preparation from gentisic acid given) in benzene containing Et₃N at room temperature for 4 h to give 52% benzyl 5-benzyloxy-2-[trans-4-(benzyloxycarbonylaminomethyl)cyclohexylcarbonyloxy]benzoate. This was hydrogenated over 10% Pd-C in AcOH to give 100% tranexamic acid gentisic acid ester, namely 2-[trans-4-(aminomethyl)cyclohexylcarbonyloxy]-5-hydroxybenzoic acid (II). II was more effective than hydroquinone or tranexamic acid alone for preventing the deposition of excess melanine

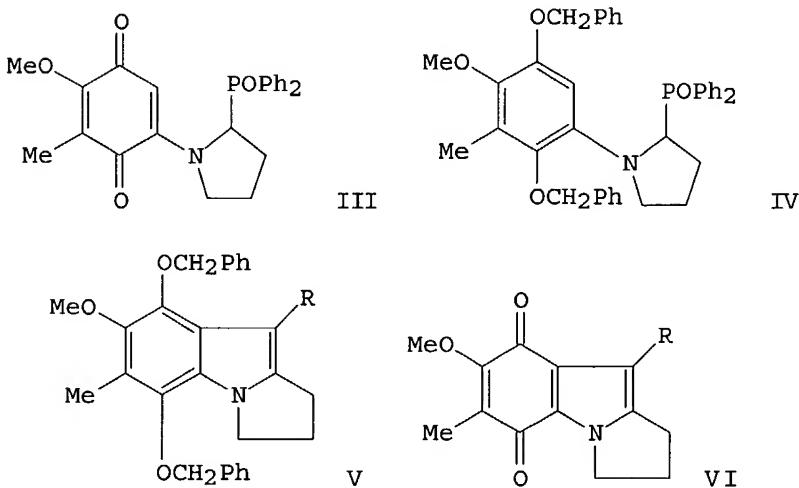
to skins of female panelists after exposure to sun light. A cream formulation containing II and other formulations containing I were given.

L5 ANSWER 6 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1993:580469 CAPLUS
 DN 119:180469
 TI Improvement of monobenzene synthesis
 AU Yan, Xiaolin; Zhang, Yuancai
 CS Med. Train. Sch., PLA Gen. Logist. Dep., Beijing, 100071, Peop. Rep. China
 SO Zhongguo Yiyao Gongye Zazhi (1993), 24(1), 5-8
 CODEN: ZYGEZA; ISSN: 1001-8255

DT Journal
 LA Chinese
 AB 4-HOC₆H₄OCH₂Ph (I), a known skin-lightening agent, is prepared by an improved process. A mixture of hydroquinone and PhCH₂Cl in EtOH was heated to boil, a solution of KOH in aqueous EtOH was added, and the solution was refluxed, cooled, diluted with H₂O, acidified to pH 3-4, the solids were washed, added to 1 M NaOH, filtered, and the filtrate was acidified to give 32.5% I.

not acid / Et₂O

L5 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1992:651106 CAPLUS
 DN 117:251106
 TI Synthesis of mitosenes from N-aryl-2-(diphenylphosphinyl)pyrrolidines
 AU Van der Steeg, M.; Zorgdrager, J.; Schreurs, H.; Van der Gen, A.
 CS Dep. Org. Chem., Leiden Univ., Leiden, 2300 RA, Neth.
 SO Recueil des Travaux Chimiques des Pays-Bas (1992), 111(9), 402-6
 CODEN: RTCPA3; ISSN: 0165-0513
 DT Journal
 LA English
 OS CASREACT 117:251106
 GI



AB A new route for the construction of the mitosene skeleton was developed using 2-(diphenylphosphinyl)pyrrolidine (I) and 2-methoxy-3-methyl-1,4-benzoquinone (II) as starting materials. Regioselective oxidative addition of I to II gave 5-substituted pyrrolidinylbenzoquinone III. Protection of

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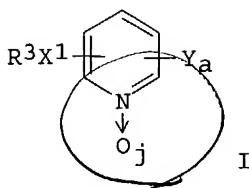
the quinone function by reduction, followed by in-situ reaction with benzyl bromide, gave the bis-benzylated product IV. Using a recently developed route to pyrrolo[1,2-a]indoles, IV was converted into the protected mitosenes V (R = Me, Et, 4-MeC₆H₄, PhSCH₂CH₂). Debenzylation and subsequent oxidation of V produced the mitosenes VI in good yields.

L5 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1988:422602 CAPLUS
DN 109:22602
TI Improvement in synthesis of **hydroquinone** monobenzyl ether
AU Li, Guanghua; Wang, Peiyuan; Zhao, Weiguo; Chen, Jue
CS Dep. Pharmacochem., Zhejiang Med. Univ., Hangzhou, Peop. Rep. China
SO Zhejiang Yike Daxue Xuebao (1987), 16(4), 154-6
CODEN: ZYDXDM; ISSN: 1000-1743
DT Journal
LA Chinese
AB Stirring p-**hydroquinone** with PhCH₂Cl, NaOH, NaHSO₃, and PEG-400 at 70-80° for 2 h gave 21% PhCH₂OC₆H₄OH-4 (I) and p-(PhCH₂O)₂C₆H₄ (II). Partial debenzylation of II with tetrahydronaphthalene in EtOH in the presence of 10% Pd/C gave 90% I.

mu

L5 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1988:406764 CAPLUS
DN 109:6764
TI Transformation of ubiquinone-9 into ubiquinone-10 using the Wittig reaction
AU Moiseenkov, A. M.; Veselovskii, A. B.; Filippova, T. M.; Obol'nikova, E. A.; Zhulin, V. M.; Samokhvalov, G. I.
CS Inst. Org. Khim., Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1987), (9), 2086-91
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
OS CASREACT 109:6764
AB Five- and seven-step methods were developed for conversion of ubiquinone-9 and the dibenzyl ether of the corresponding **hydroquinone** to ubiquinone-10 using a Wittig reaction in the key step with an overall yield of 2 and 17%, resp. A reaction under pressure of 10-14 kbar is suggested for the direct synthesis of (2-methyl-2-hepten-6-yl)triphenylphosphonium bromide.

L5 ANSWER 10 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1988:406455 CAPLUS
DN 109:6455
TI Synthesis of double carbon-14 labeled CI-937 and CI-942, potential new anticancer drugs
AU Hicks, James L.; Huang, C. C.; Showalter, H. D. Hollis
CS Chem. Dep., Warner-Lambert/Parke-Davis Pharm. Res., Ann Arbor, MI, 48105, USA
SO Journal of Labelled Compounds and Radiopharmaceuticals (1987), 24(10), 1209-20
CODEN: JLCRD4; ISSN: 0362-4803
DT Journal
LA English
OS CASREACT 109:6455
GT



AB The title compds. R1XR2 [R1 = (un)substituted carbocyclic (aromatic or nonarom.) or heterocyclic ring; X = covalent single or double bond, (un)substituted heteroatom or substituted C, etc.; R2 = (un)substituted heterocyclic ring] are plant antitranspirants. The pyridines I [R3 = (un)substituted Ph, 1- or 2-naphthyl or heteroaryl; X1 = O, S, SO₂, NH, CH₂O, CH₂S, etc.; Y = halo, alkyl, CN, polyhaloalkyl, alkoxy, etc.; a = 2-4, j = 0, 1] are novel compds. A solution of 12.4 g 4-methylthiophenol and 10.7 g 2,6-lutidine in 50 mL acetone was treated with 18.4 g cyanuric chloride in 200 mL acetone, to give 1.16 g 2,4-dichloro-6-(4-methylphenylthio)-1,3,5-triazine (II). II (1840 ppm) very markedly decreased transpiration rate and increased leaf diffusion resistance, in potted bean (*Phaseolus vulgaris*). In isolated pea chloroplasts, 2,4-dichloro-6-(2,6-dichlorophenoxy)-1,3,5-triazine (622 g/L) had no effect on photosynthetic electron transport, as shown by absence of O₂ uptake inhibition. This was contrasted to 65% O₂ uptake inhibition caused by the standard atrazine (108 g/L). M

L5 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1986:572043 CAPLUS

DN 105:172043

TI Pharmaceutical α -aminopropoxyphenyl derivatives

IN Louis, William John; Berthold, Richard; Stoll, Andre

PA Australia

SO Patentschrift (Switz.), 10 pp.

CODEN: SWXXAS

DT Patent

LA German

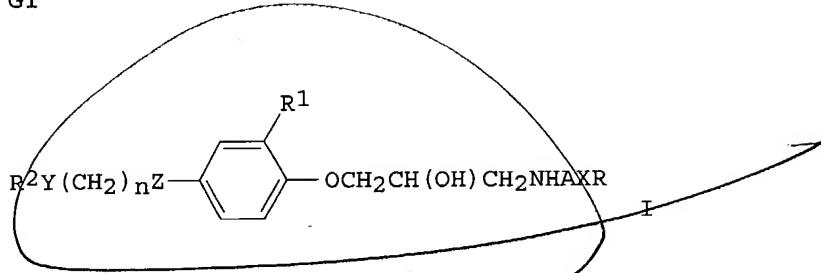
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CH 654826	A	19860314	CH 1982-1378	19810707
	NL 8103224	A	19820201	NL 1981-3224	19810706
	AU 8172630	A1	19820114	AU 1981-72630	19810707
	AU 547666	B2	19851031		
	WO 8200141	A1	19820121	WO 1981-CH74	19810707
	W: CH				
	ZA 8104677	A	19830223	ZA 1981-4677	19810709
	FR 2497194	A1	19820702	FR 1982-718	19820115
	FR 2497194	B1	19850614		
	GB 2132611	A1	19840711	GB 1983-24990	19830919
	GB 2132611	B2	19850116		
	US 4816604	A	19890328	US 1987-22502	19870309
	US 4970238	A	19901113	US 1989-321815	19890310
PRAI	GB 1980-22412		19800709		
	CH 1980-5999		19800807		
	CH 1980-8245		19801106		
	CH 1980-8247		19801106		
	GB 1980-41155		19801223		
	GB 1981-4585		19810213		
	WO 1981-CH74		19810707		
	GB 1981-20786		19810706		
	US 1981-281459		19810708		
	US 1983-481775		19830404		

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US 1985-691497 19850414
US 1985-790576 19851023
US 1987-22502 19870309

GI



AB The title compds. I ($R = Ph$, $MeOC_6H_4$, etc.; $R^1 = H$, CN , Br , $CONH_2$, etc.; $R^2 = Me$, $MeOC_6H_4CH_2$, cyclopropylmethyl, etc.; $A = alkylene$; $X = O$, S , bond; $Y = O$, S ; $Z = O$, bond; $n = 1$, 2 , 3) are prepared as β -adrenoreceptor-blocking agents with high cardiac selectivity. Thus, the reaction of 2-(2,3-dpoxypropoxy)-5-(2-methoxyethoxy)benzonitrile (preparation given) with 2-(4-methoxyphenoxy)ethylamine in MeOH gave I ($R = 4$ - $MeOC_6H_4$; $R^1 = cyano$; $R^2 = Me$; $X = Y = Z = O$; $A = CH_2CH_2$; $n = 2$) (II). II had β -adrenoreceptor-blocking activity on the guinea pig lung membrane and left atrial membrane, in vitro. The cardioselectivity factor of II was 80°. Some I are also α -adrenoreceptor-blocking agents.

L5 ANSWER 13 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1985:78964 CAPLUS

DN 102:78964

TI Preparation of regioselectively protected hydroquinones by phosphorylation of p-benzoquinones with trialkyl phosphites

AU Duthaler, Rudolf O.; Lyle, Paulette A.; Heuberger, Christoph
CS Lab. Org. Chem., Eidg. Tech. Hochsch. Zurich, Zurich, CH-8092, Switz.

SO Helvetica Chimica Acta (1984), 67(5), 1406-26

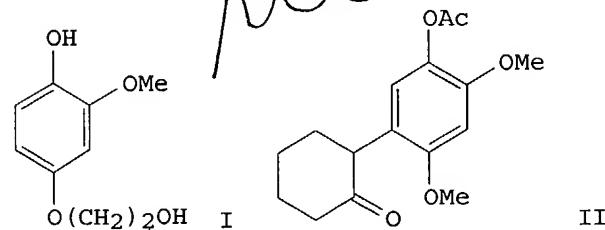
CODEN: HCACAV; ISSN: 0018-019X

DT Journal

LA English

OS CASREACT 102:78964

GI



AB The title reaction has been applied to 10 monosubstituted p-benzoquinones. The regioselectivity of the O-phosphorylation is influenced by bulky substituents (tert-Bu and trimethylsilyl) and, electronically, by the methoxy group. The regioselectivity, which is high in nonpolar solvents (benzene), is lower in polar solvents (CH_2Cl_2 and $MeCN$). The synthetic potential of this transformation, exemplified by the preparation of phenol I and arylcyclohexanone II, is considerably extended by applying milder methods for the phosphate hydrolysis and by using the reagent couple $P(OMe)_3/Me_3SiCl$, which gives clean access to p-hydroxyphenyl phosphates. The p-benzoquinones with strong π -acceptor substituents react in a

10652797

different way, giving phosphonates. The electronically induced regioselectivity of the O- and C-phosphorylation is in accordance with the preferences expected for the attack by a nucleophilic phosphorylation agent.

L5 ANSWER 14 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1983:179709 CAPLUS
DN 98:179709
TI Synthesis of (-)-1-hydroxy-N-methylmorphinan-6-one and its O-methyl ether from (-)-4-hydroxy-N-formylmorphinan-6-one
AU Schmidhammer, Helmut; Brossi, Arnold
CS Lab. Chem., Natl. Inst. Arthritis, Diabetes, Dig. Kid. Dis., Bethesda, MD, 20205, USA
SO Journal of Organic Chemistry (1983), 48(9), 1469-71
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
GI For diagram(s), see printed CA Issue.
AB Hydroxymorphinanone I was oxidized with Fremy's salt followed by reduction of the p-quinone with Zn in MeOH in the presence of NH4Cl to give the hydroquinone II. Protection of the C-1 hydroxyl group by a benzyl group and the C-4 hydroxyl group by phenyltetrazolyl group and reduction of the diether over Pd/C in AcOH gave the isomeric hydroxymorphinanone III (R = H, R1 = CHO). Deprotection of the latter followed by methylation gave III (R = H, R1 = Me) and III (R = R1 = Me). III (R = H, Me, R1 = Me) were evaluated for their antinociceptive activity in the hot-plate assay in mice.

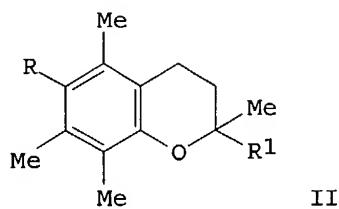
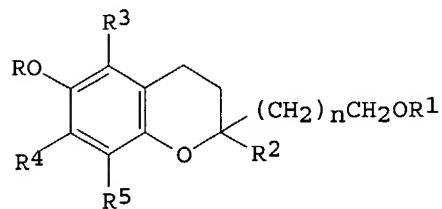
L5 ANSWER 15 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1977:584732 CAPLUS
DN 87:184732
TI Antioxidant chroman compounds
IN Scott, John William; Parrish, David Richard; Saucy, Gabriel
PA Hoffmann-La Roche, Inc., USA
SO U.S., 31 pp. Division of U.S. 3,947,473.
CODEN: USXXAM

DT Patent
LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4026907	A	19770531	US 1975-637548	19751204
	US 3947473	A	19760330	US 1973-417465	19731119
	CH 622257	A	19810331	CH 1976-14579	19761119
PRAI	US 1972-317566		19721222		
	US 1973-417465		19731119		
	CH 1973-17771		19731219		

GI



AB Chroman derivs. I (R, R1 = H, PhCH2, Ph2CH, Ph3C, alkoxy, alkyl,

tetrahydropyranyl, acyl; R₂ = H, alkyl, Ph; R₃, R₄, R₅ = H, alkyl, n = 0,1) useful as antioxidants for oils, fats, and waxes and as intermediates in the preparation of optically active tocopherols, were prepared. Thus, II (R

AcO, R₁ = OH), prepared by condensation of trimethyl **hydroquinone**, (MeO)₃CH, and MeCOCH:CH₂, followed by acetylation and demethylation, was treated with (MeO)₂P(O)CH₂CO₂Me and saponified to give II (R = HO, R₁ = CH₂CO₂H). Acetylation of the latter followed by chlorination gave the acid chloride which was reduced to the aldehyde II (R = AcO, R₁ = CH₂CHO). The (±)-aldehyde treated with (±)-BrCH₂CHMe(CH₂)₃CHMe(CH₂)₃CHMe₂ gave 2RS,4'RS,8'RS-2',3'-dehydro- α -tocopheryl acetate, which was hydrogenated to the racemic α -tocopheryl acetate.

L5 ANSWER 16 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1977:493472 CAPLUS

DN 87:93472

TI Novel p-aminophenols as dye intermediates

AU Bailey, J.; Milner, N.

CS Kodak Ltd., London, UK

SO Research Disclosure (1977), 159, 50-1 (No. 15958)

CODEN: RSDSBB; ISSN: 0374-4353

DT Journal; Patent

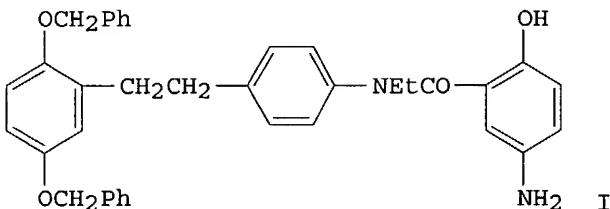
LA English

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI RD 159058 19770710

PRAI RD 1977-159058 19770710

GI



AB P-aminophenol derivs. are described which contain a masked **hydroquinone** moiety and which serve as intermediates which can be oxidatively coupled to simple color couplers (i.e., without amino functional groups) to give a dye which can be converted into an oxichromic developer. Thus, I, whose preparation is described in detail, coupled oxidatively with 2-o-chlorophenyl-6-methyl-1H-pyrazolo[3,2-c]-s-triazole to give a dye product with a λ_{max} (in EtOAc) at 544 nm.

L5 ANSWER 17 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1977:431917 CAPLUS

DN 87:31917

TI Photographic color materials

IN Koyama, Koichi; Maekawa, Yukio; Miyakawa, Masami

PA Fuji Photo Film Co., Ltd., Japan

SO Ger. Offen., 81 pp.

CODEN: GWXXBX

DT Patent

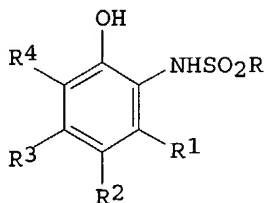
LA German

FAN.CNT 1

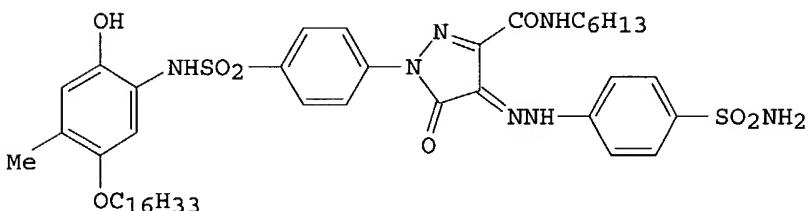
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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10652797

PI	DE 2613005	A1	19761007	DE 1976-2613005	19760326
	DE 2613005	C2	19870723		
	JP 51113624	A2	19761006	JP 1975-38305	19750328
	JP 56017656	B4	19810423		
	US 4055428	A	19771025	US 1976-670763	19760326
	GB 1531283	A	19781108	GB 1976-12397	19760326
PRAI	JP 1975-38305		19750328		
GI					



I



II

AB Dye stuff-releasing redox compds. I (R=azo dye residue; R1 = H, or with R2 forms a dihydropyran; R2=C16H33O, C6H13O, EtO, or with R1 forms a dihydropyran; R3=H, Me, C15H31, or with R4 forms a cyclohexane ring; R4 = H, Cl, CMe3CH2CMe2, or with R3 forms a cyclohexane ring) are described for use in diffusion-transfer photog. materials. These compds. give transfer images with a high d. and less color stain or yellow stain than previously used redox compds. Thus, a solution containing II 7.5, sorbitan monolaurate 1, 2-[2-[2-(2-dodecyloxyethoxy)ethoxy]ethoxy]ethyl maleate-styrene polymer 3 g, N,N-diethylauramide 20, and cyclohexane 60 ml was dispersed in aqueous gelatin containing 0.5 weight% Na dodecylbenzenesulfonate 200 g, water 200 ml added, and 450 g of this dispersion added to a red-sensitive gelatin-Ag(Br, I) emulsion (6 mol Ag/kg). To this emulsion was then added 2-hydroxy-4,6-dichloro-s-triazine Na salt 0.4 g and the emulsion coated on a cellulose triacetate support at 170 mg/cm². A top layer of gelatin (1μ) was then added. This photosensitive material was then exposed through a step wedge (20 steps) to a white light (20 candle-M-S) from a 1 kW W-lamp (color temperature 2854 K), combined with a receptor element, processed, separated after 5 min, washed, and dried to give a yellow image having a blue light reflection maximum transfer d. of 1.43 and a blue light reflection min transfer d. of 0.38.

L5 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1977:89536 CAPLUS

DN 86:89536

TI Studies on "Inchinko." I. Capillarisin, a new choleretic substance

AU Komiya, Takeya; Tsukui, Makoto; Oshio, Haruji

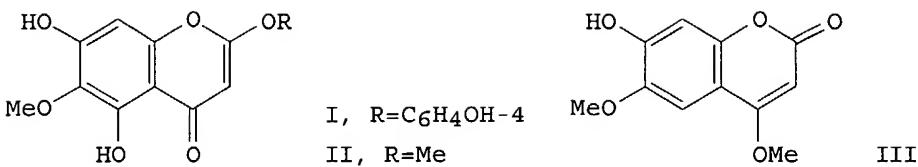
CS Cent. Res. Div., Takeda Chem. Ind., Ltd., Kyoto, Japan

SO Yakugaku Zasshi (1976), 96(7), 841-54

CODEN: YKKZAJ; ISSN: 0031-6903

DT Journal

LA Japanese



AB Capillarisin (I), was isolated from the herb of *Artemisia capillaris* (Japanese name, "Inchinko") by tracing the activity in rats. By heating with 1% NaOH or H₂SO₄ in methanol, I was cleaved to **p-hydroquinone** and II or **p-hydroquinone** and III. Positions of the functional groups in II and III were determined by direct comparison with the synthetic samples, to establish the structure of I.

L5 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1960:34414 CAPLUS

DN 54:34414

OREF 54:6796b-i,6797a-h

TI Tocopherols. III. Reaction of phytol with some toluquinol derivatives

AU Mamalis, P.; Green, J.; Marcinkiewicz, S.; McHale, D.

CS Vitamins Ltd., Tadworth, UK

SO Journal of the Chemical Society, Abstracts (1959) 3350-7

CODEN: JCSAAZ; ISSN: 0590-9791

DT Journal

LA Unavailable

OS CASREACT 54:34414

AB cf. C.A. 52, 17252b. The preparation of some toluquinol derivs. was described and their reaction with phytol (I) investigated. Toluquinol (II) (50 g.) was benzoylated to give 4.4 g. II dibenzoate, m. 122°, 18.5 g. II 4-benzoate (III), m. 113-15°, and 40 g. of mixed monobenzoates. III (7.1 g.), 5.2 ml. PhCH₂Br, 9.1 g. K₂CO₃, and 100 ml. Me₂CO refluxed 4 hrs., H₂O added, and the mixture extracted with Et₂O, washed with N NaOH, and evaporated gave 6.6 g. 5-benzoyloxy-2-benzylxytoluene (IV) and 2 benzoyloxy-5-benzylxytoluene (V) as a mixture IV when recrystd. m. 118-19°, distillation of the mother liquors gave 2.4 g. V, b₀.05 190-205°, m. 75-9°. IV (1 g.) in 20 ml. alc. shaken with H and 10% Pd-C until uptake ceased gave 0.61 g. III; trityl ether m. 138-9° (alc.). V (1 g.), partially dissolved in 40 ml. alc., reduced catalytically as above gave 0.65 g. toluquinol i-benzoate, m. 145-6° (alc.-ligroine). IV (25.1 g.) in 230 ml. alc. stirred during 5 min. at 60° under N during addition of 157 ml. N NaOH, after a further 2 hrs. at 60° the mixture cooled, acidified, most of the ale. removed, an oil which separated extracted with Et₂O, washed, and the alkaline

extract acidified gave 8.3 g. BzOH, m. 122°. Evaporation of the ether layer gave 14.4 g. solids from which toluquinol 1benzyl ether (VI) was obtained, m. 70-1° (Et₂O-ligroine). Similarly V gave toluquinol 4-benzyl ether, prisms, m. 85-6° (EtOAc-ligroine). Benzoylation of 78.6 g. II gave 11.5 g. II dibenzoate and 87.4 g. mixed monobenzoates.

Benzylation of the latter afforded 54.9 g. IV and distillation of the mother liquors gave 30.3 g. V. II (6.2 g.), 8.6 g. PhCH₂Br, 6.9 g. K₂CO₃, and 25 ml. Me₂CO refluxed 4 hrs., H₂O added, extracted with Et₂O, the solvent removed, and the residue distilled gave 2 fractions: (1) 1.2 g., b₀.02 50-148°, consisted of 0.23 g. II and PhCH₂Br, and (2) 4.6 g., b₀.02 148-52°, which partially solidified. An Et₂O solution of 1.1 g. of this solid gave toluquinol dibenzyl ether, m. 49-51°. The dark oil (3 g.) treated 1 hr. on the steam bath with 15 ml. C₅H₅N and 2 g. BzCl

gave 2.7 g. crude V. VI (2.1 g.) in 10 ml. CHCl₃ treated rapidly at 5° with 1.6 g. Br in 10 ml. CHCl₃, the mixture evaporated, the residue stirred with 5 ml. cold CHCl₃, and crystallized gave 0.52 g. 5-bromotoluquinol (VIa), m. 181-3° (H₂O). Evaporation of the original CHCl₃ mother liquor gave 1.85 g. crude 5-bromotoluquinol 1-benzyl ether (VII), m. 66.5-8.0 (ligroine). Catalytic hydrogenation of VII gave VIa. VI (6.4 g.), 9 g. CaCO₃, 90 ml. CHCl₃ stirred 15 min. at 5° during addition of 4.8 g. Br in 30 ml. CHCl₃, left overnight, and the filtrate evaporated gave 7.8 g. VII. Sulfanilic acid (1.73 g.) and 0.44 g. Na₂CO₃ in 8 ml. H₂O treated with 0.61 g. NaNO₂ in 2 ml. H₂O, the mixture poured on 10 g. ice and 1.75 ml. concentrated HCl, left 15 min., the diazonium solution added to 1.25 g. NaOH

in 5

ml. H₂O containing 1.22 g. VI, set aside overnight, stirred 0.5 hr. at room temperature with 2.1 g. Na dithionite, the oil extracted with EtOAc, the solvent re

moved, and the residue kept 3 hrs. with 5 ml. Ac₂O and 1 drop H₂SO₄ gave 4-acetamido-5-acetoxy-2-benzylxytoluene (VIII), m. 180-3° (aqueous alc.). VIII (0.6 g.), 12 ml. alc., and 4.8 g. N NaOH kept 1 hr. at room temperature, acidified, and diluted gave 0.5 g. 5-acetamidotoluquinol 1-benzyl ether (IX), m. 168-9° (aqueous alc.). VII (2.9 g.), 3 g. I, 15 ml. anhydrous HCO₂H, and 15 ml. C₆H₆ refluxed 4 hrs. (mixture became dark), the C₆H₆ layer separated, washed with N NaOH, and evaporated. The dark oil was shaken

with H and 10% Pd-C; paper chromatography failed to indicate any tocol products. VIa (2 g.), 3 g. I, 15 ml. HCO₂H, and 15 ml. C₆H₆ refluxed 3 hrs. also gave a dark oil which did not contain tocol products. IX (150 mg.), 170 mg. I, 1.5 ml. C₆H₆, and 1.5 ml. HCO₂H refluxed 5 hrs., and the 170 mg. of crude oil catalytically reduced showed no tocol products. Acidification of the alkaline washings yielded unchanged material. VI (5 g.), 7 g. I, 3.3 g. anhydrous ZnCl₂, and 90 ml. Decalin stirred 3 hrs. at 140-50°, the hot supernatant liquid decanted, the residual gum rejected, the combined Decalin solns. evaporated, and the 0.45 g. of II collected. The Decalin liquors gave 10.6 g. of an oil which was shaken in 50 ml. alc. and 20 ml. EtOAc with H and 10% Pd-C; the mixture assayed by paper chromatography showed 3 reducing bands, one at the origin (12%), 34% in the position expected for 5- (X) and 7-methyltocol (XI), and a fastrunning band (11%) which did not couple with diazotized o-dianisidine. VI (1.1 g.), 1.5 g. I, 12 ml. HCO₂H, and 12 ml. C₆H₆ refluxed 3 hrs. and worked up after hydrogenation gave 2.45 g. of brown oil which assayed for 57% X and XI. Very little fast-running material was obtained by this method. Mixed IV and V (11.4 g.), 28 g. MeI, 13.8 g. K₂CO₃, and 40 ml. Me₂CO refluxed 3 hrs., H₂O added, the oil extracted into EtOAc, washed with N NaOH, dried, and evaporated gave 2 pure products, 3.6 g. 5-benzoyloxy-2-methoxytoluene (XII), prisms, m. 88-9° (ligroine), and 2.9 g. 2-benzoyloxy-5-methoxytoluene (XIII), m. 55-7°. XII was also prepared by methylation of 11.2 g. III. Alkaline hydrolysis of XII gave toluquinol 1-methyl ether (XIV), m. 44-6° (ligroine). Toluquinol 4-methyl ether was similarly prepared from the isomeric benzoate, m. 70-1° (ligroine). XIV (1.3 g.), 3.7 g. I, 15 ml. C₆H₆, and 15 ml. HCO₂H refluxed 4 hrs. gave 4.15 g. brown oil, which heated 4 hrs. with HBr in AcOH and concentrated HCl gave 3.4 g. concentrate containing both X and XI. Mixed X and XI (2.47 g.), 1.6 g. PhCH₂Br, and 50 ml. Me₂CO was shaken 2 hrs. with 3.6 ml. NaOH (36%); short path distillation of the product gave an oil, b0.02 210°. Catalytic reduction of the sample gave 71% X and XI. The material was a mixture of 5- and 7-methyl tocol benzyl ethers. The benzyl ether mixture (1.55 g.) in 35 ml. tetradecane was refluxed 1 hr., the solvent removed, the 1.1 g. of residual oil examined by paper chromatography, and the reducing bands were shown to contain 28% X and XI and a band containing 22% benzylmethyltocols. The 2 reducing products were separated by chromatography on ZnCO₃-Hyflo Super-cel. The faster brown oil was free from X and XI, did not couple with diazotized o-dianisidine and gave an assay of about 71% and distilled gave mixed benzylmethyltocols,

orange-yellow oil, b0.01 180°, v 3509, 2907, 1460, 1376, 1344, 1323, 1225, 1157 cm.-1. The slower brown oil was rechromatographed to give 69 mg. of yellow oil, assayed at 92% X, b0.0001 130°. VI with I gave 35% X and 67% XI, while XIV gave 38% X, and 62% XI. In one experiment, after thermal treatment of the mixed tocol benzyl ethers, the tocol band comprised 34% X and 66% XI. IX (1 g.) in 30 ml. alc. shaken with H and 10% Pd-C, the catalyst and solvent removed, and the residue crystallized gave 0.55 g. 5-acetamidotoluquinol (XV), m. 175-7° (EtOAc-ligroine); dibenzyl ether, white needles, m. 116-17° (aqueous alc.). XV (0.9 g.), 2.5 g. MeI, 1.4 g. K2CO3, and 15 ml. Me2CO refluxed 5 hrs. gave 5-acetamidotoluquinol dimethyl ether (XVI), flat needles, m. 164-6° (aqueous alc.). XVI (1.5 g.) and 10 ml. concentrated HCl, 10 ml. AcOH, and 10 ml. H2O refluxed 2 hrs. gave 5-aminotoluquinol dimethyl ether (XVII) HCl salt, m. 207-8° (decomposition) (alc.-EtOAc); free XVII formed plates, m. 112-13° (aqueous alc.). XVII (1.95 g.), 3.5 ml. HBr, and 1.5 ml. H2O stirred at 0° while 0.82 g. NaNO2 in 1.5 ml. H2O was added, the diazonium solution added portionwise to 1.5 g. CuBr in 1 ml. 48% HBr on a steam bath, the product isolated by steam distillation, the distillate extracted with EtOAc, and the solvent concentrated gave 1.65 g. 5-bromotoluquinol dimethyl ether, prisms, m. 92-3° (aqueous alc.). XIV similarly treated gave 4-acetamido-5-acetoxy-2-methoxytoluene (XVIII), m. 145-7° (alc.). Hydrolysis of XVII with cold aqueous alc. NaOH gave 5-acetamidotoluquinol 1-methyl ether (XIX), m. 161° (aqueous alc.). Methylation of XIX gave XVI. Toluquinol dimethyl ether (1.5 g.) in 10 ml. AcOH stirred 15 min. at 20° during addition of 0.7 g. HNO3, left 1 hr., poured into H2O, and crystallized gave 5-nitrotoluquinol dimethyl ether (XX), m. 117-18° (alc.). Catalytic reduction of XX gave XVII.

L5 ANSWER 20 OF 20 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1948:36470 CAPLUS
 DN 42:36470
 OREF 42:7725g-i,7726a-i,7727a
 TI Amines related to 2,5-dimethoxyphenethylamine. IV. 2,5-Diethoxy-, 2-hydroxy-5-methoxy-, and 2-hydroxy-5-ethoxyphenylalkanolamines
 AU Ide, Walter S.; Baltzly, Richard
 CS Wellcome Research Lab., Tuckahoe, NY
 SO Journal of the American Chemical Society (1948), 70, 1084-7
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA Unavailable
 GI For diagram(s), see printed CA Issue.
 AB Earlier studies on pressor amines have been extended to other alkoxy substituted β -hydroxyphenethyl- and 2-phenylisopropylamines. The aryl ketones used were prepared by Friedel-Crafts reactions between hydroquinone dialkyl ethers and the appropriate acyl chlorides or anhydrides. Addition of AlCl3 below 5° and short reflux times held the amount of dealkylation of the ortho group below 20%. Separation of the 2-HO by-product was accomplished by benzylation of the crude alkali-soluble fractions in MeOH with slightly less than 1 equivalent of KOH and of PhCH2Cl, followed by distillation. The ketones thus prepared and crystallized from hexane were: 2,5-(EtO)2C6H3COEt, m. 28°, b18 178-80°; 2,5-(PhCH2O)(MeO)C6H3COMe (prisms), m. 50°, b1 187-92°; 2,5-(PhCH2O)(MeO)C6H3COEt (rhombs), m. 47°, b1 194-6°; 2,5-(AcO)(MeO)C6H3COEt (I) (rhombs), m. 54°; 2,5-(PhCH2O)(EtO)C6H3COMe (needle-prisms), m. 42°, b1 198-202°; 2,5-(HO)(EtO)C6H3COEt (needles), m. 82°; 2,5-(PhCH2O)(EtO)C6H3COEt

(yellow needles), m. 43°, b1 198-202°. The α -isonitrosopropiophenones prepared by the method of Hartung and Crossley (C.A. 37, 3449.8) and crystallized from AcOEt-hexane were: 2,5-(EtO)2C6H3COCMe:NOH (II) (yellow powder), m. 84°; 2,5-(PhCH2O)(MeO)C6H3COCMe:NOH (III) (yellow needle-prisms), m. 98.5°; 2,5-(EtO2CO)(MeO)C6H3COCMe:NOH (IV) (yellow needle-prisms), m. 89-9.5°; and 2,5-(PhCH2O)(EtO)C6H3COCMe:NOH (V) (yellow powder), m. 86°. The α -bromo ketones prepared in 55-90% yield were: 2,5-(EtO)2C6H3COCH2Br, leaflets, m. 77° (from MeOH-hexane); 2,5-(EtO)2C6H3COCH2Br, leaflets, m. 77° (from MeOH-hexane); 2,5-(EtO)2C6H3COCHMeBr, flat needles, m. 42° (from MeOH-hexane); 2,5-(PhCH2O)(MeO)C6H3COCH2Br (VI), needles, m. 87-7.5° (from EtOAc-hexane); 2,5-(HO)(MeO)C6H3COCHMeBr (from bromination of I with simultaneous deesterification), yellow powder, m. 60° (from hexane); 2,5-(PhCH2O)(MeO)C6H3COCHMeBr, prisms, m. 60° (from hexane); 2,5-(PhCH2O)(EtO)C6H3COCH2Br (VII), platelets, m. 73° (from hexane); and 2,5-(PhCH2O)(EtO)C6H3COCHMeBr, m. 78° (from hexane). VII could not be converted to the amine with $(CH_2)_6N_4$ and an alternate synthesis was devised: 0.05 mole VII and 0.1 mole $(PhCH_2)_2NH$ in absolute Et2O after 40 hrs. at room temperature yielded 7 g. (0.025 mole) $(PhCH_2)_2NH \cdot HBr$ (3 days longer standing gave only 3 g. addnl.); extraction of the filtrate with H2O, 3 hrs. standing with 5 cc. Ac2O, and shaking with N HCl gave 60% 2,5-(PhCH2O)(EtO)C6H3COCH2N(CH2Ph)2 (VIII); HCl salt, m. 185-7° (decomposition). Other Br ketones were treated with PhCH2NHMe as described in Part III to give tertiary amino ketones of which the following could be purified by crystallization from absolute EtOH-Et2O: 2,5-(EtO)2C6H3COCH2NMeCH2Ph.HCl, m. 145° (89% yield); and 2,5-(HO)(MeO)C6H3COCH2NMeCH2Ph.HCl, m. 156.5-8° (20% yield). Debenzylation of the benzylmethylamines with Pd-C and H gave α -methylamino ketones of which the following were characterized by crystallization from EtOH: 2,5-(EtO)2C6H3COCH2NHMe.HCl, m. 163° (75% yield); 2,5-(HO)(EtO)C6H3COCH2NHMe.HCl, m. 186°; and 2,5-(HO)(EtO)C6H3COCHMeNHMe.HCl, m. 164.5°. Primary amino ketones obtained by reduction of the isonitroso ketones with Pd-C and H were: from II, 2,5-(EtO)2C6H3COCHMeNH2.HCl, m. 161° (from absolute EtOH-Et2O); from III, 2,5-(PhCH2O)(MeO)C6H3CONHMeNH2.HCl, m. 179.5° (from absolute EtOH); from VIII, 2,5-(HO)(EtO)C6H3COCH2NH2.HCl, m. 182-5° (decomposition) (from absolute EtOH). Reduction of IV resulted in the loss of CO2Et and this approach was abandoned. VI was converted by the $(CH_2)_6N_4$ method to the crude amine which was purified easily after debenzylation to give 2,5-(HO)(EtO)C6H3COCH2NH2.HCl, m. 192-3° (55% yield from VI). The product of Pd-C-catalyzed reduction of V was not isolated. Amino ketone HCl salts reduced with H and Pt catalyst after crystallization of the product from absolute EtOH or absolute EtOH-Et2O gave 40-90% yields of the amino alcs.: 2,5-(HO)(MeO)C6H3CH2NH2.HCl, leaflets, m. 160°; 2-hydroxy-5-ethoxy analog-HCl, platelets, m. 152.5-3°; 2,5-(EtO)2C6H3CH(OH)CH2NHMe.HCl, m. 150°; 2-HO analog, m. 133°; 2-hydroxy-5-methoxy analog-HCl, rhombs, m. 130°; 2,5-(EtO)2C6H3CH(OH)CHMeNH2 (IX)-HCl, needles, m. 216°; 2-HO analog (X)-HCl, m. 217° (decomposition); 2-hydroxy-5-methoxy analog-HCl prisms (XI), m. 228° (decomposition); 2,5-(EtO)2C6H3CH(OH)CHMeNHMe (XII)-HCl, rhombs, m. 146°; 2-HO analog-HCl (XIII), needles, m. 182.5°; and 2-hydroxy-5-methoxy analog (XIV), m. 202°. 2,5-(EtO)2C6H3CHO, prepared in 57% yield by the Gattermann reaction, after a Reformatskii reaction followed by cold hydrolysis, gave 72% 2,5-(EtO)2C6H3CH(OH)CO2H, m. 94°; the hydrazide, m. 167°, prepared in quant. yield from the ester (CH_2N_2 used for esterification to avoid dehydration), after treatment with HNO_2 and cautious warming, gave 67% 2,5-(EtO)2C6H3CH(CH2.NH.CO.O, m. 86.5°, which with cold concentrated HCl gave 50% 2,5-(EtO)2C6H3CH(OH)CH2NH2.HCl, m. 178°. Since IX, X, XI, XII, XIII,

and XIV were prepared by hydrogenation of ketones in weakly acidic solution the ephedrine rather than pseudoephedrine configuration is proposed.

2-Hydroxy-5-methoxyphenylalkanolamines resemble rather closely their 2,5-di-MeO analogs, which are powerful, long-acting pressors, but are somewhat less potent and less toxic, but only IX is at all comparable in length of action. Potency falls off in the other 2 classes, the 2,5-diethoxyphenylalkanolamines being the least active and also the most toxic.

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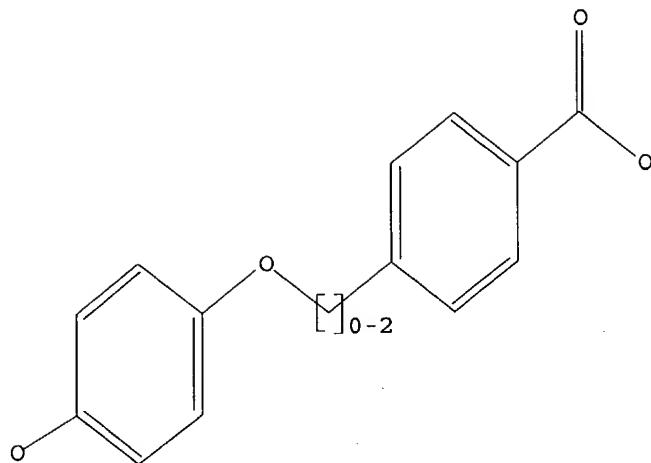
L7 STRUCTURE UPLOADED

=> d 17
L7 HAS NO ANSWERS

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L7

STR



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=> s 17 full
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100.0% PROCESSED 76627 ITERATIONS 1601 ANSWERS
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FULL ESTIMATED COST	155.42	379.32
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CA SUBSCRIBER PRICE	0.00	-16.17

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FILE COVERS 1907 - 27 Jul 2004 VOL 141 ISS 5
FILE LAST UPDATED: 26 Jul 2004 (20040726/ED)

This file contains CAS Registry Numbers for easy and accurate

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substance identification.

=> s 18 full
L9 979 L8

=> s 19 and pdihydroxy benzene
0 PDIHYDROXY
279519 BENZENE
0 PDIHYDROXY BENZENE
(PDIHYDROXY (W) BENZENE)
L10 0 L9 AND PDIHYDROXY BENZENE

=> s 19 and hydroquinone
43309 HYDROQUINONE
L11 95 L9 AND HYDROQUINONE

=> s 111 and benzylation
9621 BENZYLATION
L12 0 L11 AND BENZYLATION

=> d 1-95 bib abs
L12 HAS NO ANSWERS
'BIB ABS ' IS NOT A VALID STRUCTURE FORMAT KEYWORD
Structure Formats
SIA ----- Structure Image, Attributes, and map table if it contains
data. (Default)
SIM ----- Structure IMage.
SAT ----- Structure ATtributes and map table if it contains data.
SCT ----- Structure Connection Table and map table if it contains
data.
SDA ----- All Structure DAta (image, attributes, connection table and
map table if it contains data).
NOS ----- NO Structure data.
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ENTER STRUCTURE FORMAT (SIA), SCT, SDA, SIM, SAT, NOS:nos
L7 STR
L8 1601 SEA FILE=REGISTRY SSS FUL L7
L9 979 SEA FILE=CAPLUS L8
L11 95 SEA FILE=CAPLUS L9 AND HYDROQUINONE
L12 0 SEA FILE=CAPLUS L11 AND BENZYLATION

=> d 1-95 bib abs 111

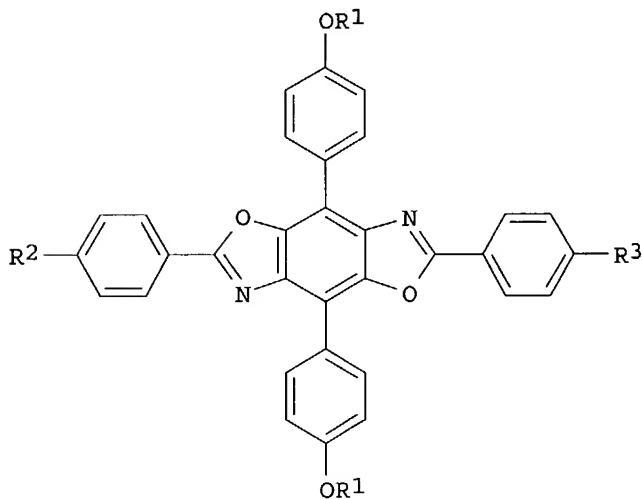
L11 ANSWER 1 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:411677 CAPLUS
DN 140:431126
TI Manufacture of silicon-containing curable polymer compositions for planar
optical waveguides and wiring boards
IN Florence, Corey Nawarage
PA Fujitsu Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 2004143280 A2 20040520 JP 2002-309280 20021024
PRAI JP 2002-309280 20021024
AB The compns. containing repeating units of AD(R) [A = F-substituted (O- or

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S-containing) hydrocarbylene; D = F-substituted (O- or S-containing) trivalent hydrocarbon group; R = Si(OR₁)(OR₂)R₃; R₁, R₂ = hydrocarbyl (each b.p. of R₁OH and R₂OH under normal pressure $\leq 250^\circ$); R₃ = (F-substituted) double bond-terminated hydrocarbyl] show n and dielec. constant of their cured products 1.350-1.600 and 2.00-4.00, resp. The compns. give cured products with adjustable n and dielec. constant, and improved mech. properties and solvent resistance.

L11 ANSWER 2 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:307847 CAPLUS
DN 139:69185
TI Cruciform π -Systems for Molecular Electronics Applications
AU Klare, Jennifer E.; Tulevski, George S.; Sugo, Kenji; de Picciotto, Anat; White, Kiley A.; Nuckolls, Colin
CS Department of Chemistry, Columbia University, New York, NY, 10027, USA
SO Journal of the American Chemical Society (2003), 125(20), 6030-6031
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
OS CASREACT 139:69185
GI



AB A new class of mols. consisting of cruciform π -systems, benzobis(oxazole)s I (R₁ = n-C₁₂H₂₅; R₂ = R₃ = H, CN, MeCOS, MeCOSCH₂; R₂ = H, R₃ = CHO, HO₂C; R₂ = MeO₂C, R₃ = MeCOS), were synthesized using a modular and general procedure via an unprecedented double Staudinger cyclization. Once formed, these rigid compds. assemble into ordered monolayer films on metal and metal oxide surfaces to orient their conjugated, phenyloxazole subunits upright. This surface orientation is enforced by the external Ph substituents that are out of the ring plane, thus preventing the prone conformation.

RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 3 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:757815 CAPLUS
DN 135:303681

10652797

TI Preparation of diiodo-thyronine analogs used in combination with vinca alkaloids for suppressing tumor growth

IN Kun, Ernest

PA Octamer, Inc., USA

SO U.S., 22 pp.

CODEN: USXXAM

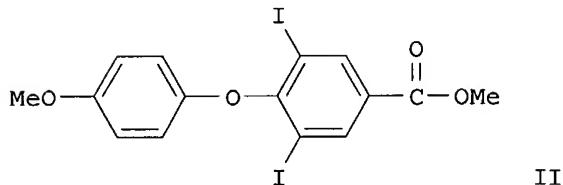
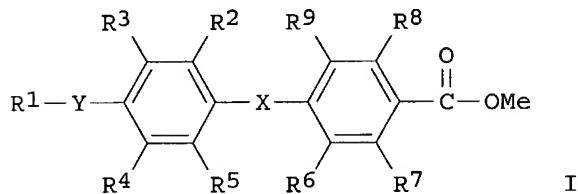
DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6303621	B1	20011016	US 1999-295662	19990421
PRAI	US 1998-82679P	P	19980422		
OS	MARPAT 135:303681				

GI



AB Title compds. I [X = absent, O, S, CH, carboxy; Y = O, S; R1 = Me, Et; R2-5 = H, alk(en/yn)yl, OH, alkoxy, halo; R6-9 = H, alk(en/yn)yl, OH, alkoxy, halo, NH2] were prepared. Examples include data for 14 synthetic diiodo thyronine analogs, toxicity and bioavailability determination using nude mice and in-vivo efficacy in treating human mammary cancer xenografts in mice. E.g., II administered at 250 mg/kg 5 days/wk for 32 days to nude mice inoculated with MDA-MB-231 cells resulted in a 56% reduction in malignant tumor growth at 28 days. Activity of compds. I is potentiated by the use of vinca alkaloids (e.g. vincristine sulfate); the combination is used to inhibit growth of tumor cells.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:736992 CAPLUS

DN 135:304617

TI Ferroelectric polymeric materials containing liquid crystalline polymers

IN Kurioka, Shuji

PA Kyocera Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

10652797

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001279117	A2	20011010	JP 2000-89546	20000328
PRAI	JP 2000-89546		20000328		

AB The polarizable title materials, comprise: (A) an all-aromatic polyamide ferroelec. polymer having no glass transition temperature or/and m.p., and (B) 40-90% a liquid crystalline polymer, e.g., thermotropic liquid crystalline polyester.

Thus, polymerizing 1.015 g terephthaloyl chloride with 0.761 g 3,5-diaminobenzoic acid in AcNMe₂ gave an A with no Tg or m.p. detected, reacting 13.452 g polyethylene terephthalate with 5.405 g p-acetoxybenzoic acid at 280° gave a B with a Tg 87° and m.p. 212°, and mixing 0.08 g A and 0.12 g B in 25 mL N-methylpyrrolidone at 90° for 4 h gave a blended solution, which was concentrated at 120° and reduced pressure, filtered, spin-coated on ITO-treated glass plate and dried to give a transparent 0.8 μm thick film with a remanent polarization value of 61 mC/m².

L11 ANSWER 5 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:677484 CAPLUS

DN 135:358293

TI Synthesis and phase state of fluoro-containing copoly(arylates)

AU Voitekunas, V. Yu.; Vasnev, V. A.; Markova, G. D.; Vinogradova, S. V.; Kameneva, T. M.

CS Nesmeyanov Inst. of Organoelement Compounds, Russian Academy of Sciences, Moscow, 117813, Russia

SO Vysokomolekulyarnye Soedineniya, Seriya A i Seriya B (2001), 43(7), 1121-1126

CODEN: VSSBEE; ISSN: 1023-3091

PB MAIK Nauka/Interperiodica Publishing

DT Journal

LA Russian

AB Fluoro-containing homo- and copoly(arylates) based on terephthaloyl chloride, hydroquinone, and fluoro-containing bis(phenols), namely, bis(4'-hydroxyphenyl)-2,2-hexafluoropropane, 4,4'-bis(hydroxyphenoxy)tetrafluorobenzene, and 4,4'-bis(hydroxyphenoxy)octafluorodiphenyl, were synthesized by the solution acceptor-catalytic polyesterification, and the properties of the resulting polymers were studied. The use of bis(4'-hydroxyphenyl)-2,2-hexafluoropropane, 2-hydroxyphenoxy derivs. of tetrafluorobenzene, and 2- and 4-hydroxyphenoxy derivs. of octafluorodiphenyl leads to the formation of liquid crystalline (LC) homo- and copolymers. It was demonstrated that the introduction of chlorine atoms into the ortho position of bis(4'-hydroxyphenyl)-2,2-hexafluoropropane and the employment of dimeric bis(4'-hydroxyphenyl)-2,2-hexafluoropropane bring about the production of homo- and copolymers devoid of LC properties.

L11 ANSWER 6 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:338472 CAPLUS

DN 134:353172

TI Preparation of phenoxyalkanoic acids as drug delivery agents

IN Leone-Bay, Andrea; Kraft, Kelly; Moye-Sherman, Destardi; Gschneidner, David; Boyd, Maria A. P.; Liu, Puchun; Tang, Pinwah; Liao, Jun; Smarth, John E.; Freeman, John J., Jr.

PA Emisphere Technologies, Inc., USA

SO PCT Int. Appl., 107 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2001032596 A1 20010510 WO 2000-US30662 20001106
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, HR, HU, ID, IL,
 IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
 MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG,
 SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW,
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 BR 2000015567 A 20020716 BR 2000-15567 20001106
 EP 1226104 A1 20020731 EP 2000-979142 20001106
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 JP 2003513060 T2 20030408 JP 2001-534752 20001106
 ZA 2002002365 A 20021025 ZA 2002-2365 20020325
 PRAI US 1999-163806P P 19991105
 US 2000-231836P P 20000906
 US 2000-237233P P 20001002
 WO 2000-US30662 W 20001106
 OS MARPAT 134:353172
 AB R1OZ1Z2CO2H [I; R1 = (un)substituted Ph; Z1 = (heteroatom-interrupted) alk(en)ylene or (hetero)arylene; Z2 = bond, (hydroxy)arylene, haloarylene] were prepared. Thus, 2-(HO)C6H4OCH2Ph was etherified by Br(CH2)6CO2Et and the product deprotected to give 2-(HO)C6H4O(CH2)6CO2H. Data for drug delivery activity of I were given.
 RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 7 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2001:238862 CAPLUS
 DN 135:46540
 TI Synthesis and Properties of AB-Type Semicrystalline Polyimides Prepared from Polyamic Acid Ethyl Ester Precursors
 AU Liu, Xiang-Qian; Jikei, Mitsutoshi; Kakimoto, Masa-aki
 CS Department of Organic and Polymeric Materials, Tokyo Institute of Technology, Meguro-ku Tokyo, 152-8552, Japan
 SO Macromolecules (2001), 34(10), 3146-3154
 CODEN: MAMOBX; ISSN: 0024-9297
 PB American Chemical Society
 DT Journal
 LA English
 AB Three AB-type polyimides with para-, meta- and ortho-linked main chain units based on **hydroquinone**, resorcinol and catechol, were synthesized and characterized. The polyimides were prepared in two steps by the direct polycondensation reactions of isomeric monomers, 4-(4-aminophenoxy)diphenyl ether-3',4'-dicarboxylic acid monoethyl ester (Ip), 3-(4-aminophenoxy)diphenyl ether-3',4'-dicarboxylic acid monoethyl ester (Im) and 2-(4-aminophenoxy)diphenyl ether-3',4'-dicarboxylic acid monoethyl ester (Io), to form poly(amic acid Et ester)s followed by thermal or chemical imidization. The resultant polyimides were analyzed by tensile tests, thermogravimetry (TG), differential scanning calorimetry (DSC), dynamic mech. anal. (DMA), and wide-angle X-ray diffraction measurements. These AB-type polyimides were semicryst. and the crystallinities were estimated to be 19-24%. These polyimides showed glass transition temps. in the range of 178°-198° and melting transition temps. of 308°-393°. DSC measurements suggested that the polyimide based on **hydroquinone** units crystallizes much faster than those based on resorcinol and catechol. The polyimide based on the fully para-ether linkages showed a single melting endotherm, whereas the polyimides containing meta- and ortho-ether linkages exhibited

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bimodal melting behavior.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 8 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:911075 CAPLUS

DN 134:71589

TI Preparation of 5-(halo or alkyl)-5-aryl-2,4-thiazolidinedione and oxazolidinedione derivatives as PPAR agonists

IN Sahoo, Souyma P.; Santini, Conrad; Boueres, Julia K.; Heck, James V.; Metzger, Edward; Lombardo, Victoria K.

PA Merck & Co., Inc., USA

SO PCT Int. Appl., 140 pp.

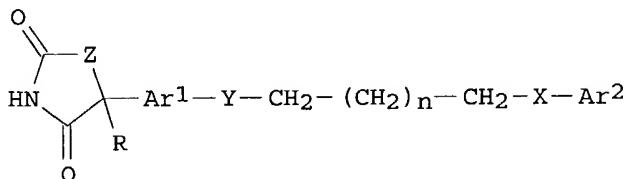
CODEN: PIXXD2

DT Patent

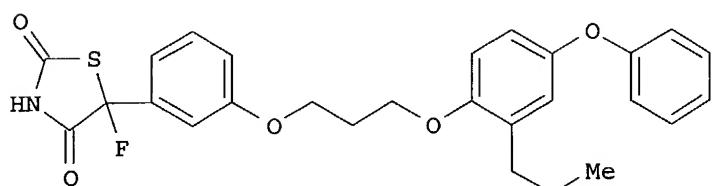
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2000078312	A1	20001228	WO 2000-US16586	20000616	
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG	EP 1194146	A1	20020410	EP 2000-944694
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO	US 6399640	B1	20020604	US 2000-595802	20000616
	JP 2003502369	T2	20030121	JP 2001-504375	20000616	
	AU 773505	B2	20040527	AU 2000-58755	20000616	
PRAI	US 1999-139953P	P	19990618			
	WO 2000-US16586	W	20000616			
OS	MARPAT	134:71589				
GI						



I



II

AB The title compds. (I) [wherein Ar1 = (hetero)arylene optionally substituted with 1-4 R1 groups; Ar2 = (hetero)aryl substituted with 1-5 Ra

groups; X and Y = independently O, S, NRb, or CH₂; Z = O or S; n = 0-3; R = (un)substituted alkyl, F, or Cl; Ra = halo, ORb, (hetero)aryl, or (un)substituted alkanoyl, alkyl, alkenyl, alkynyl, or heterocyclyl; Rb = H, (hetero)aryl, (hetero)arylalkyl, alkanoyl, cycloalkyl, or (un)substituted alkyl, alkenyl, or alkynyl] were prepared as peroxisome proliferator activated receptor (PPAR) agonists. For example, 4-(3-bromopropoxy)-3-propylphenyl Ph ether and Me 3-hydroxyphenylacetate were coupled. The acetate was α -brominated with N-bromosuccinimide and then treated with thiourea and NaOAc in MeOEt to give the 5-aryl-2,4-thiazolidinedione cycloaddn. product. Fluorination with N-fluorobenzenesulfonimide in the presence of KOBu-t in DMF, followed by addition of NaN(TMS)₂, afforded the 5-aryl-5-fluoro-2,4-thiazolidinedione (II). I are useful in the treatment, control, or prevention of diabetes, hyperglycemia, hyperlipidemia (including hypercholesterolemia and hypertriglyceridemia), atherosclerosis, obesity, vascular restenosis, and other PPAR α and/or γ mediated diseases, disorders, and conditions (no data).

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 9 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:648652 CAPLUS
DN 133:335730
TI Frustrated phase condition: a way to room temperature FLC polymers with low switching voltage?
AU Kozlovsky, Mikhail; Pozhidaev, Evgeni
CS Institut fur Physikalische Chemie, Technische Universitat Darmstadt, Darmstadt, 64287, Germany
SO Ferroelectrics (2000), 243(1-4), 145-158
CODEN: FEROA8; ISSN: 0015-0193
PB Gordon & Breach Science Publishers
DT Journal
LA English
AB The effect of mol. structure on ferroelec. properties of a variety of chiral LC polyacrylates, polymethacrylates, and poly(methylsiloxyanes) containing mesogenic side chains were studied. From asym. substituted esters of terephthalic acid and hydroquinone. Ferroelec. liquid crystalline polyesters were switchable to 28°C at 0.2 V/ μ m voltage.

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 10 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:789487 CAPLUS
DN 132:202200
TI Very weak electron-electron exchange interactions in paramagnetic dinuclear tris(pyrazolyl)boratomolybdenum centres with extended bridging ligands: estimation of the exchange coupling constant J by simulation of second-order EPR spectra
AU Shonfield, Peter K. A.; Behrendt, Andreas; Jeffery, John C.; Maher, John P.; McCleverty, Jon A.; Psillakis, Elefteria; Ward, Michael D.; Western, Colin
CS School of Chemistry, University of Bristol, Bristol, BS8 1TS, UK
SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1999), (24), 4341-4347
CODEN: JCDTBI; ISSN: 0300-9246
PB Royal Society of Chemistry
DT Journal
LA English
AB Two series of dinuclear complexes were prepared in which paramagnetic nitrosylmolybdenum(I) or oxomolybdenum(V) units were attached to either end of very long bis-pyridyl or bis-phenolate bridging ligands resp. The 1st series of complexes is [{MoI(TpMe,Me)(NO)Cl}2{ μ -L}] (L =

4,4'-bis[2-(4-pyridyl)ethen-1-yl]biphenyl 1; 4,4''-bis[2-(4-pyridyl)ethen-1-yl]terphenyl 2; 4,4'-bis[2-(4-pyridyl)ethen-1-yl]benzophenone 3; 4,4'-bis[2-(4-pyridyl)ethen-1-yl]benzil 4; or 6,6'-bis[2-(4-pyridyl)ethen-1-yl]-2,2'-bipyridine 5). The 2nd series of complexes is $[\{MoV(TpMe, Me)(O)Cl\}2(\mu-L)]$ ($H2L = HOC6H4OC(S)OC6H4OH$ 6; $HOC6H4OS(O)OC6H4OH$ 7; or $HOC6H4OC(O)C6H4C(O)OC6H4OH$ 8, with all-para substitution for the C₆H₄ units in each case). The very weak spin exchange interactions between the remote paramagnetic centers result in many cases in 2nd-order EPR spectra, because $|J| \approx A$ (J is the exchange coupling constant, A the electron-nucleus hyperfine coupling). In these cases the appearance of the EPR spectra is complicated and sensitive to small changes in the magnitude of J , which could be exploited to estimate values for $|J|$ by comparing the measured spectra with computer simulations calculated using a range of values of $|J|$. For the 1st series of complexes the spin exchange interactions decrease in the order 1 ($|J| \geq 4000$), 2 (1000), 3 (150), 4 (43), 5 ($|J| \leq 10$ MHz) which is readily explicable in terms of the lengths, conformations and substitution patterns of the bridging ligands. For the 2nd series of complexes, 6 and 7 both gave 2nd-order spectra with $|J| = 2000$ MHz, whereas 8, with a much longer bridging ligand, has $|J| \leq 10$ MHz. Crucially, these spin-exchange interactions are much too weak to be determined by conventional magnetic susceptibility measurements ($|J| \ll 1$ cm⁻¹), and therefore simulation of 2nd-order EPR spectra provides a simple route to providing useful information about the relative magnitudes of very weak spin exchange interactions which is not available by any other route.

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 11 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:789166 CAPLUS
DN 132:93745
TI Controlled molecular design of ether- and ester-bridged norbornenes and their ring-opening metathesis polymerizations
AU Abd-El-Aziz, Alaa S.; Edel, Andrea L.; May, Leslie J.; Epp, Karen M.; Hutton, Harold M.
CS Department of Chemistry, University of Winnipeg, Winnipeg, MB, R3B 2E9, Can.
SO Canadian Journal of Chemistry (1999), 77(11), 1797-1809
CODEN: CJCHAG; ISSN: 0008-4042
PB National Research Council of Canada
DT Journal
LA English
AB A series of functionalized polynorbornenes containing pendent ether- or ester-bridged poly(aromatic ether) chains were prepared. The ether-bridged norbornene complex was synthesized via cyclopentadienyl iron-mediated nucleophilic aromatic substitution reactions. This methodol., combined with that of dicyclohexylcarbodiimide-mediated coupling, allowed for the formation of novel oligomeric a

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ryl ether and ester substituted norbornene complexes. Photolytic demetalation gave the monomers in good yields. Structural identification of the exo and endo isomers of both the metalated and demetalated norbornene derivs. was accomplished using HH and CH COSY NMR techniques. Ring-opening metathesis polymerization (ROMP) of these monomers using RuCl₃(hydrate) and (Cy₃P)₂Cl₂Ru=CHPh allowed for the preparation of the functionalized polynorbornenes. Thermal anal. of the resulting polymeric materials demonstrated greater thermal stability as the number of aryl ether groups increased.

RE.CNT 77 THERE ARE 77 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 12 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1999:223358 CAPLUS
 DN 131:32218
 TI Synthesis and properties of novel aromatic polyhydrazides and poly(amide-hydrazide)s based on the bis(ether benzoic acid)s from hydroquinone and substituted hydroquinones
 AU Hsiao, Sheng-Huei; Dai, Liang-Ru; He, Ming-Hsiang
 CS Department of Chemical Engineering, Tatung Institute of Technology, Taipei, Taiwan
 SO Journal of Polymer Science, Part A: Polymer Chemistry (1999), 37(8), 1169-1181
 CODEN: JPACCEC; ISSN: 0887-624X
 PB John Wiley & Sons, Inc.
 DT Journal
 LA English
 AB 4,4'-(1,4-Phenylenedioxy)dibenzoic acid as well as the 2-methyl-, 2-tert-butyl-, or 2-phenyl-substituted derivs. of this dicarboxylic acid were synthesized in two main steps from p-fluorobenzonitrile and hydroquinone or its methyl-, tert-butyl-, or phenyl-substituted derivs. Polyhydrazides and poly(amide-hydrazide)s were prepared from these bis(ether benzoic acid)s or their diacyl chlorides with terephthalic dihydrazide, isophthalic dihydrazide, or p-aminobenzoyl hydrazide by means of the phosphorylation reaction or low-temperature solution polycondensation.

Most of the hydrazide polymers and copolymers are amorphous and readily soluble in various polar solvents such as N-methyl-2-pyrrolidone (NMP) and DMSO. They could be solution-cast into transparent, flexible, and tough films. These polyhydrazides and poly(amide-hydrazide)s had Tgs in the range of 167-237°C and could be thermally cyclodehydrated into the corresponding poly(1,3,4-oxadiazole)s and poly(amide-1,3,4-oxadiazole)s approx. in the region of 250-350°C, as evidenced by the DSC thermograms. All the tert-butyl-substituted oxadiazole polymers and those derived from isophthalic dihydrazide were organic soluble. The thermally converted oxadiazole polymers exhibited Tgs in the range of 208-243°C and did not show significant weight loss before 450°C either in nitrogen or in air.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 13 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1999:126113 CAPLUS
 DN 130:297056
 TI Synthesis and properties of poly(ether imide)s based on the bis(ether anhydride)s from hydroquinone and its derivatives
 AU Hsiao, Sheng-Huei; Dai, Liang-Ru
 CS Department of Chemical Engineering, Tatung Institute of Technology, Taipei, Taiwan
 SO Journal of Polymer Science, Part A: Polymer Chemistry (1999), 37(5), 665-675
 CODEN: JPACCEC; ISSN: 0887-624X
 PB John Wiley & Sons, Inc.
 END
 DT Journal
 LA English
 AB Four bis(ether anhydride)s, 4,4'-(1,4-phenylenedioxy)diphthalic anhydride (IV), 4,4'-(2,5-tolylendioxy)-diphthalic anhydride (Me-IV), 4,4'-(2-chloro-1,4-phenylenedioxy)diphthalic anhydride (CI-IV), and 4,4'-(2,5-biphenylenedioxy)diphthalic anhydride (Ph-IV), were prepared in three steps starting from the nucleophilic nitrodisplacement reaction of 4-nitrophthalonitrile with the potassium phenoxides of

hydroquinone and various substituted hydroquinones such as methylhydroquinone, chlorohydroquinone, and phenylhydroquinone in N,N-dimethylformamide, followed by alkaline hydrolysis and dehydration. Four series of poly(ether imide)s were prepared from bis(ether anhydride)s with various aromatic diamines by a classical two-step procedure. The inherent viscosities of the intermediate poly(amic acid)s were in the range of 0.40-2.63 dL/g. Except for those derived from p-phenylenediamine and benzidine, almost all the poly(amic acid)s could be solution-cast and thermally converted into transparent, flexible, and tough polyimide films. Introduction of the chloro or Ph substituent leads to a decreased crystallinity and an increased solubility of the polymers. The glass transition temps. (Tg) of these polyimides were recorded in the range of 204-263°C. In general, the methyl- and chloro-substituted polyimides exhibited relatively higher Tgs, whereas the phenyl-substituted ones exhibited slightly lower Tgs compared to the corresponding nonsubstituted ones. Thermogravimetric anal. (TG) showed that 10% weight loss temps. of all the polymers were above 500°C either in nitrogen or in air.

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 14 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:126109 CAPLUS
DN 130:267828
TI Synthesis and properties of new polyarylates from 1,4-bis(4-carboxyphenoxy)naphthyl or 2,6-bis(4-carboxyphenoxy)naphthyl and various bisphenols
AU Liou, Guey-Sheng; Chern, Yaw-Terng
CS Department of Chemical Engineering, I-Shou University, Kaohsiung, 84008, Taiwan
SO Journal of Polymer Science, Part A: Polymer Chemistry (1999), 37(5), 645-652
CODEN: JPACEC; ISSN: 0887-624X
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB New 1,4-naphthalenediyl- and 2,6-naphthalenediyl-containing polyarylates having inherent viscosities up to 1.28 dL/g were synthesized by the high-temperature solution polycondensation from the acid chloride of 1,4-bis(4-carboxyphenoxy)naphthalene or 2,6-bis(4-carboxyphenoxy)naphthalene and various bisphenols. Most of the resulting polyarylates showed amorphous characteristics and were readily soluble in common organic solvents such as N,N-dimethylacetamide (DMAc), N-methyl-2-pyrrolidone, o-chlorophenol, and CHCl₃. Transparent, flexible, and colorless films of these polymers could be cast from the DMAc solns. Their cast films had tensile strengths 54.9-84.2 MPa, elongations at break 5.3-19.0%, and initial modulus 2.0-2.8 GPa. These polymers had glass transition temps. in the range of 172-280°C and began to lose weight around 400°C, with 10% weight loss being recorded at about 450°C in air. Dynamic mech. anal. reveals that polyarylates containing isopropylidene linkages have three transitions on the temperature scale between -100 and +300°C. However, only two transitions were observed in the other polyarylates without this linkage.

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 15 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:650959 CAPLUS
DN 129:316155
TI Preparation of phenoxypridines as inhibitors o, and tough films of the polymers could be cast from the DMAc or NMP solns. These films had tensile strength of 60-100 MPa,

elongation to break of 6-11%, and tensile modulus of 1.68-2.25 GPa. The glass transition temperature (Tg) of most polyamides determined by DSC was 200-232°. The TGA indicate that the polyamides are fairly stable up to 450°, and 10% weight loss temps. were 458-535° in N and 468-528° in air atmospheric. In general, the phenyl-substituted polyamides exhibited relatively higher Tg, thermal stability, and solubility compared to the Me analogs.

L11 ANSWER 22 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1996:230083 CAPLUS
 DN 124:290435
 TI Synthesis and properties of aromatic polyamides based on 4,4'-(1,4(1,3 or 1,2)-phenylenedioxy)dibenzonic acid
 AU Hsiao, Sheng-Huei; Chang, Chih-Fen
 CS Dep. Chemical Engineering, Tatung Institute Technology, Taipei, Taiwan
 SO Macromolecular Chemistry and Physics (1996), 197(4), 1255-72
 CODEN: MCHPES; ISSN: 1022-1352
 PB Huethig & Wepf
 DT Journal
 LA English
 AB Three isomeric bis(ether carboxylic acid)s, 4,4'-(1,2(1,3 or 1,4)-phenylenedioxy)dibenzonic acid (o-, m-, or p-3) were prepared by nucleophilic substitution reaction of the potassium phenolate of catechol, resorcinol, and hydroquinone, resp., with p-fluorobenzonitrile, giving the corresponding bis(ether nitrile)s, followed by alkaline hydrolysis. Three series of isomeric polyamides were synthesized by direct polycondensation of the bis(ether carboxylic acid)s with various aromatic diamines in N-methyl-2-pyrrolidone (NMP) solution containing dissolved metal salts such as CaCl₂ or LiCl using tri-Ph phosphite and pyridine as condensing agents. The resultant polyamides had inherent viscosities of 0,52-1,63 dL/g. Most of the polymers were soluble in polar aprotic solvents such as N,N-dimethylacetamide (DMAc), N,N-dimethylformamide (DMF), NMP, and DMSO. The catechol-based polyamides revealed markedly higher solubility than those based on hydroquinone or resorcinol. Transparent, flexible and though films could be cast from the DMAc or NMP solns. for most of the polyamides. All the casting films were characterized by tensile tests. The glass transition temps. (Tg's) of most polyamides could be determined in the range of 183-232°. In general, the polyamides based on catechol had Tg's comparable with the ones of the hydroquinone-based polyamides and higher Tg's than the corresponding resorcinol-based ones. Thermogravimetric anal. data of these polymers indicated that all the polyamides were stable up to 400° in both air and nitrogen atmospheres.

L11 ANSWER 23 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1995:495116 CAPLUS
 DN 122:215091
 TI Effect of the Orientation of the Ester Bonds on the Properties of Three Isomeric Liquid Crystal Diacrylates before and after Polymerization
 AU Hikmet, R. A. M.; Lub, J.; Tol, A. J. W.
 CS Philips Research, Eindhoven, 5656AA, Neth.
 SO Macromolecules (1995), 28(9), 3313-27
 CODEN: MAMOBX; ISSN: 0024-9297
 PB American Chemical Society
 DT Journal
 LA English
 AB Three isomeric liquid crystal (LC) acrylates 1,4-bis((4-((6-(acryloyloxy)hexyl)oxy)benzoyl)oxy)benzene, ((6-(acryloyloxy)hexyl)oxy)-4-((4-((6-(acryloyloxy)hexyl)oxy)benzoyl)oxy)benzoyl)oxy)benzene, and bis(4-((6-(acryloyloxy)hexyl)oxy)phenyl) terephthalate were synthesized. The orientation of the ester links with respect to the central Ph ring has a strong influence on the phase, optical, and dielec. behavior of the

monomers. The polymerization behavior of the isomers differed. Changes

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occurring in the microstructure during polymerization were studied using X-ray diffraction. In order to obtain an understanding of the observed differences, the phase behavior and polymerization behavior of various mixts. were studied. The results of the expts. and the mol. modeling suggested that the assocns. between the mols. are the origin of the formation of observed LC phases and the strength of the interactions determine whether the microstructure is preserved during polymerization

L11 ANSWER 24 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1995:28217 CAPLUS
 DN 122:106950
 TI Synthesis and characterization of poly(p-phenylene terephthalate) crystals obtained by crystallization during polymerization
 AU Kimura, Kunio; Endo, Seiji; Kato, Yasuo; Yamashita, Yuhiko
 CS Res. Cent., TOYOB0 Co. Ltd., Ohtsu, 520-02, Japan
 SO High Performance Polymers (1994), 6(1), 83-93
 CODEN: HPPOEX; ISSN: 0954-0083
 DT Journal
 LA English
 AB Poly(p-phenylene terephthalate) (PPTE) crystals were prepared by high-temperature solution polymerization via three different types of reactions: bimol. condensation of (1) 1,4-diacetoxybenzene and terephthalic acid and (2) hydroquinone and di-Ph terephthalate and self-condensation of mono(4'-acetoxphenyl) terephthalate. In spite of the reaction types, needlelike crystals are not obtained as found with poly(oxy-1,4-benzenediylcarbonyl) (POB) whiskers, under polymerization conditions identical with those used to produce POB whiskers. PPTE and POB have similar mol. structures, i.e., they comprise 1,4-phenylene groups and ester linkages, whereas the morphologies of the crystals obtained are quite different. From the structural study, PPTE crystals are single crystals, and polymer chains align perpendicular to the plane of the shelflike or platelike crystal.

L11 ANSWER 25 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1994:606391 CAPLUS
 DN 121:206391
 TI The structure and conformation of 4-hydroxyphenyl terephthalate: a model compound for a liquid crystalline polyester
 AU Saebo, Debbie B.; Oldham, Philip B.; Saebo, Svein
 CS Department of Chemistry, Mississippi State University, Mississippi State, MS, 39762, USA
 SO THEOCHEM (1994), 118, 35-40
 CODEN: THEODJ; ISSN: 0166-1280
 DT Journal
 LA English
 AB A theor. anal. using ab initio calcns. of the possible conformations of 4-hydroxyphenyl terephthalate which represents the repeat unit for poly(p-phenylene terephthalate) is reported. The study includes complete geometry optimizations and calcn. of vibrational frequencies at the SCF/STO-3G level of ten distinct stationary points on the mol. potential surface. The calcns. show that both the terephthalic and the hydroquinone fragments of the system prefer planar conformations. For the entire mol., the low-energy form is a twisted conformation where the hydroquinone portion is twisted by about 65° relative to the terephthalic portion of the mol. The barrier to internal rotation around the ester bond is about 2kcal·mol-1.

L11 ANSWER 26 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1994:558397 CAPLUS
 DN 121:158397
 TI Poly(p-phenylene terephthalate) plate crystals and manufacture thereof
 IN Kimura, Kunio; Endo, Seiji; Kato, Yasuo
 PA Toyo Boseki, Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 06080769	A2	19940322	JP 1992-234730	19920902
PRAI JP 1992-234730		19920902		
OS MARPAT 121:158397				
AB	The title crystals have mol. orientation perpendicular to the crystal plane, with good heat resistance and mech. properties and thin film moldability. 4-Acetoxyphenyl 4-carboxybenzoate was polymerized in liquid paraffin (b.p. $\geq 200^\circ/0.5$ mmHg) under N ₂ by stirring and heating to 325° over 23 min then at 325° for 24 h.			

L11 ANSWER 27 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1994:511169 CAPLUS
 DN 121:111169
 TI Thermotropic elastomers with poly(oxy-1,4-butanediyl) units in the main chain
 AU Pospiech, Doris; Komber, Hartmut; Voigt, Dieter; Haeussler, Liane; Meyer, Evelin; Schauer, Gottfried; Jehnichen, Dieter; Boehme, Frank
 CS Inst. Polymer Res. Dresden, Dresden, D-01005, Germany
 SO Macromolecular Chemistry and Physics (1994), 195(7), 2633-51
 CODEN: MCHPES; ISSN: 1022-1352
 DT Journal
 LA English
 AB The paper describes the synthesis of thermotropic elastomers from trimellitimide-terminated poly(oxy-1,4-butanediyl) [synonyms: poly(tetramethylene ether glycol), PTMG; poly(tetrahydrofuran), poly(THF)] and acetoxy group-terminated rigid blocks. Copolyester imides are formed by transesterification polycondensation in the melt. According to ¹³C NMR investigations, their chain sequence distribution is characterized by a block-like structure in which the preformed rigid units are partially exchanged by transesterification reactions during the melt polycondensation. The degree of transesterification depends on the reaction time. The influence of the length of the flexible PTMG units and of the concentration of rigid units on the phase behavior as well as on the thermal behavior and the dynamic-mech. behavior of the block copolymers is discussed with respect to aromatic model compds.

L11 ANSWER 28 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1994:509794 CAPLUS
 DN 121:109794
 TI Studies on Selective Nucleophilic Substitution Reactions of [(Cyclopentadienyl)(1,3- and 1,4-dichlorobenzene)Fe]⁺PF₆⁻ Complexes: Applications to the Synthesis of Polymer Monomers
 AU Pearson, Anthony J.; Gelormini, Ann M.
 CS Department of Chemistry, Case Western Reserve University, Cleveland, OH, 44106, USA
 SO Journal of Organic Chemistry (1994), 59(16), 4561-70
 CODEN: JOCEAH; ISSN: 0022-3263
 DT Journal
 LA English

10652797

AB Selective displacement of chloride from cyclopentadienyl(1,4-dichlorobenzene)iron(1+) by a series of aryl oxide and amine nucleophiles is described. The methodol., coupled with decomplexation of the product organometallics, allows access to a series of para-disubstituted benzene derivs. that are of potential value in the construction of unusual polymers. Four such compds., derived from sequential addition of 4-hydroxybenzoic ester and **hydroquinone** or resorcinol monophenoxy to the 1,4- and 1,3-dichlorobenzene-FeCp complexes, were subjected to polyesterification reactions. Previously unreported isoregic poly(ether-esters) were prepared and characterized.

L11 ANSWER 29 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:324312 CAPLUS
DN 120:324312
TI Synthesis and Characterization of Regioregularly Ring-Substituted, Liquid Crystalline Aromatic Polyesters
AU Jin, Jung-Il; Kang, Chung-Seok; Lee, Il-Hoon; Yun, Yong-Kuk
CS College of Sciences, Korea University, Seoul, 136-701, S. Korea
SO Macromolecules (1994), 27(10), 2664-70
CODEN: MAMOBX; ISSN: 0024-9297
DT Journal
LA English
AB A series of regioregularly ring-substituted aromatic homopolyesters was synthesized, and their general properties are compared with those of randomly substituted polymers. The newly synthesized polymers are poly(oxy-1,4-phenyleneoxy-2-bromoterephthaloyl), poly(oxy-1,4-phenyleneoxy-2-nitroterephthaloyl), poly(oxy-2,7-naphthalenediylxyloxy-2-bromoterephthaloyl), and poly(oxy-2-bromo-1,4-phenyleneoxy-2-bromoterephthaloyl). The polymers were prepared via low-temperature solution polymerization of 4-hydroxyphenyl 2-substituted terephthalates, 2-(7-hydroxynaphthyl)terephthalate, or 2-bromo-4-hydroxyphenyl 2-bromoterephthalate, all of which were prepared via multistep synthetic routes. The polymers of regular microchem. structures have much higher melting temps. and greater degrees of crystallinity than those of irregularly substituted polymers. The glass transition temperature was also dependent on the location of the substituents. Positional isomerism of the substituents leads to dissimilar structures of the crystalline regions.

L11 ANSWER 30 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:324291 CAPLUS
DN 120:324291
TI High Modulus and High Tg Thermally Stable Polymers from Di-p-ethynylbenzoyl Ester Monomers: Synthesis, Solid State Polymerization, Processing, and Thermal Properties
AU Melissaris, Anastasios P.; Litt, Morton H.
CS Department of Macromolecular Science, Case Western Reserve University, Cleveland, OH, 44106, USA
SO Macromolecules (1994), 27(10), 2675-84
CODEN: MAMOBX; ISSN: 0024-9297
DT Journal
LA English
AB Seven novel crystalline p-ethynylbenzoyl ester monomers have been synthesized in high yield and purity and characterized by GPC, x-ray, FTIR, Raman, and ¹H NMR spectroscopy. Five of the monomers were polymerized without melting. Thermal polymerization in N produced highly crosslinked resins with polymerization exotherms centered at 204-250°. The monomers are liquid crystalline or crystalline during polymerization and yield polymers retaining some order. The monomers are polymerized to high conversion in spite of their rigid matrix, which was attributed to the fact that their ethynyl groups interdigitate to a certain degree. Methylhydroquinone and chlorohydroquinone

bis(4-ethynylbenzoate) melt to a nematic mesophase just before they are polymerized. The monomers polymerized in the solid state (crystalline) exhibited little or no polymerization shrinkage (0-2.3%). 4,4'-Dihydroxybiphenyl bis(4-ethynylbenzoate) showed 0 polymerization shrinkage. A new processing technique was used to polymerize the monomers which neither melt nor have a softening point. Ethynylbenzoyl esters (EBEs) were thermally polymerized under moderate pressure to yield cohesive polymer plates with high modulus. Polymer plates could be made from 2,6-dihydroxynaphthalene, 1,5-dihydroxynaphthalene, and 4,4'-dihydroxybiphenyl bis(p-ethynylbenzoate) that were void free and had storage moduli, E' , 4.5-4.8 GPa at room temperature. Based on DMA and TMA, all polymers except the 2,6-dihydroxynaphthalene ester had T_g 's 345-440°, 50-140 deg higher than their polymerization (processing) temps. EBE polymers have very high E 's and T_g 's, much higher than those of normal amorphous crosslinked polymers, because they are highly crosslinked rodlike materials. Using TGA under N, the polymers showed a 5% weight loss at 446-485°, a maximum decomposition temperature 554-598°, and anaerobic char yield of 60-66% at 800°. Isothermal aging for poly(**hydroquinone bis(p-ethynylbenzoate)**) showed that the polymer retained ≥70% of its initial weight after 100 h at 320° in air. Of all the polymers, poly[4,4'-dihydroxybiphenyl bis(p-ethynylbenzoate)] showed the best combination of thermomech. and thermal properties (4.5-GPa storage modulus at room temperature, T_g >415°, and initial decomposition temperature >470°).

L11 ANSWER 31 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1994:165087 CAPLUS
 DN 120:165087
 TI Synthesis and properties of sequentially ordered copolymers and regioregularly ring substituted aromatic homopolymers
 AU Jin, Jung Il; Kang, Chung Seock; Lee, Il Hoon
 CS Chem. Dep., Korea Univ., Seoul, 136-701, S. Korea
 SO Progress in Pacific Polymer Science 2, Proceedings of the Pacific Polymer Conference (1992), VOL(ISS/PTTL), 285-93
 CODEN: 59CRAJ
 DT Journal
 LA English
 AB Copolymers having well-defined sequential order and aromatic polyesters having regioregularly-positioned substituents were prepared by multistep routes. Their glass transition, liquid crystal properties, crystallinity, etc., were compared with those of random sequence copolymers and randomly substituted counterparts. The polymers with regular microchem. structures have much higher melting transition temps. and greater degree of crystallinity than those with irregular structures. Also, positional isomerism leads to different crystal structure.

L11 ANSWER 32 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1993:561066 CAPLUS
 DN 119:161066
 TI Preparation of esters and medium- and low-molecular-weight polyesters
 IN De Jong, Feike; Meurs, Jan Hermen Hendrik
 PA Shell Canada Ltd., Can.; Shell Internationale Research Maatschappij B. V.
 SO PCT Int. Appl., 18 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9302038	A1	19930204	WO 1992-EP1638	19920721
	W: AU, BR, CA, FI, JP, KR, NO				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				

10652797

US 5332858	A	19940726	US 1992-914395	19920717
ZA 9205428	A	19930331	ZA 1992-5428	19920720
AU 9223449	A1	19930223	AU 1992-23449	19920721
AU 657786	B2	19950323		
EP 598756	A1	19940601	EP 1992-916015	19920721
EP 598756	B1	19960605		
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE			
JP 06509106	T2	19941013	JP 1992-502595	19920721
BR 9206301	A	19941227	BR 1992-6301	19920721
AT 138905	E	19960615	AT 1992-916015	19920721
ES 2088148	T3	19960801	ES 1992-916015	19920721
NO 9400229	A	19940314	NO 1994-229	19940121
NO 180008	B	19961021		
NO 180008	C	19970129		
PRAI GB 1991-15752		19910722		
WO 1992-EP1638		19920721		
OS MARPAT 119:161066				
AB Title compds. are manufactured by reaction of ≥ 1 phenolic ether group of a mol. with ≥ 1 haloformyl group of another mol. at 20-150° optionally in the presence of a Lewis acid catalyst. Thus, heating 2 g 4-isopropoxybenzoyl chloride with 30 mg SnCl4 at 130° for 24 h gave a polymer with d.p. 21.				

L11 ANSWER 33 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:518312 CAPLUS
DN 119:118312
TI Effect of methoxy substituent on mesophase-forming capacity of main-chain aromatic polyesters having polymethylene spacers
AU Jin, Jung Il; Kang, Chung Seock
CS Chem. Dep., Korea Univ., Seoul, 136-701, S. Korea
SO Polymer (1993), 34(11), 2407-12
CODEN: POLMAG; ISSN: 0032-3861
DT Journal
LA English
AB A new series of aromatic polyesters was prepared from bis(4-carboxy-2-methoxyphenoxy)alkanes and various aromatic diols such as hydroquinone (I), 4,4'-biphenol, and bis(4-hydroxyphenyl)terephthalate; they were characterized especially for liquid crystalline properties. When the diol employed is I and the alkylene spacer is hexa- or decamethylene, the polymer is not liquid crystalline, but the longer diols resulted in thermotropic compns. Introduction of methoxy groups into the mesogenic units appeared to reduce the axial ratio of mesogenic groups, decreasing glass-transition temperature, m.p., and isotropization temperature of the polymers. Methoxy groups also decreased the crystalline tendency of the polymers, probably due to their hindrance of chain and mol. packing in the solid.

L11 ANSWER 34 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:496667 CAPLUS
DN 119:96667
TI Aromatic copolymers with stilbene mesogenic groups. 1. Liquid-crystalline properties of compounds containing a stilbene, terephthaloyl, or hydroquinone central group
AU Leblanc, Jean Pierre; Tessier, Martine; Judas, Didier; Friedrich, Claude; Noel, Claudine; Marechal, Ernest
CS Lab. Synth. Macromol., Univ. Pierre et Marie Curie, Paris, 75252, Fr.
SO Macromolecules (1993), 26(17), 4391-9
CODEN: MAMOBX; ISSN: 0024-9297
DT Journal
LA English

10652797

AB Model compds. (Sn) of stilbene-containing copolymers are studied and compared with compds. Tn and Hn derived from terephthalic acid and hydroquinone, resp. They have the following structures: Ar[COOC₆H₄COO(CH₂)_nCH₃]₂, where Ar = -C₆H₄CH:CHC₆H₄- (Sn) and Ar = -C₆H₄- (Tn); Ar[OOC₆H₄COO(CH₂)_nCH₃]₂, where Ar = -C₆H₄- (Hn). Their liquid

crystalline

behaviors are established by DSC, optical microscopy, and x-ray diffraction. The lower homologs in the Tn and Hn series show only a nematic phase. When the alkyl group is lengthened, both nematic and SA phases are formed. In the higher homologues purely SA behavior is observed, with compound H7 exhibiting a monotropic SC phase. All the Sn compds. studied give N and Sc phases, with compds. S2, S3, and S6 exhibiting a Sc-SA transition. The effects of the central unit of the mesogenic group on liquid crystal properties are illustrated by reference to compds. Tn, Hn,

Sn,

and Nn (containing a 2,6-disubstituted naphthalene central ring). The effects of relatively small structural changes are illustrated by reference to compds. in which the n-alkyl chains are connected to the mesogenic groups by ester (Tn, Hn), ether (Ton, Hon), and direct (Tdn, Hdn) linkages.

L11 ANSWER 35 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1993:148136 CAPLUS

DN 118:148136

TI Chiral smectic side-chain copolymers and their properties

AU Kozlovsky, M. V.; Bata, L.; Fodor-Csorba, K.; Shibaev, V. P.

CS Inst. Crystallogr., Moscow, Russia

SO Crystal Research and Technology (1992), 27(8), 1141-5

CODEN: CRTEDF; ISSN: 0232-1300

DT Journal

LA English

AB Methacrylate copolymers are prepared in which chiral monomer units are combined with those of a tilted smectic homopolymer. The copolymers with the proportion of chiral units \leq 37% form a SF* phase and have therefore ferroelec. properties. Temperature dependences of the pyroelec. coefficient and spontaneous polarization are measured for a series of ferroelec. liquid-crystalline copolymers.

L11 ANSWER 36 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1993:102738 CAPLUS

DN 118:102738

TI Thermotropic copolymers having ordered comonomer sequences and flexible spacers

AU Jin, Jung Il; Kang, Chung Seock; Chang, Jin Hae

CS Chem. Dep., Korea Univ., Seoul, 136-701, S. Korea

SO Journal of Polymer Science, Part A: Polymer Chemistry (1993), 31(1), 259-65

CODEN: JPACEC; ISSN: 0887-624X

DT Journal

LA English

AB A series of new copolymers having ordered comonomer sequences were synthesized via multistep routes, and their properties such as glass-transition temperature (T_g) and m.p. (T_m), crystallization tendency, and mesomorphic properties were compared with those of the corresponding random copolymers. All of the present copolymers contained 1,8-octamethylene or 1,10-decamethylene spacers and hydroquinone and terephthalic acid moieties. In general, both melting and clearing temps. of the ordered sequence copolymers were much higher than those of the random counterparts, but crystallization tendency was comparable. All of the present copolymers were thermotropic and formed nematic phase in melts.

L11 ANSWER 37 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

10652797

AN 1992:531750 CAPLUS
DN 117:131750
TI Block copolymers containing polybenzoxazole, polybenzothiazole and polybenzimidazole moieties
IN Harris, William J.; Hwang, Wen Fang
PA Dow Chemical Co., USA
SO U.S., 56 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5098985	A	19920324	US 1990-520589	19900508
PRAI	US 1990-520589		19900508		

AB Copolymers with low phase separation at or above their glass transition temperature,

useful for fibers and films, contain blocks of the title moieties having ≥ 10 units and blocks of ≥ 1 of polyamide, polyquinoxaline, polyquinoline, aromatic polyketone, aromatic polysulfone, and aromatic polyethers.

Thus, heating 4,6-diaminoresorcinol HCl (I) 11.37, 4,4'-oxybis(benzoyl chloride) 33.9, and 10:1 methanesulfonic acid (II)-P205 solution 514 g 2 h at 70° and 16 h at 90°, adding 134.7 g polyphosphoric acid solution containing a benzoxazole group-containing 469.4:445.9 (mol ratio) I-terephthaloyl chloride copolymer and 436.5 II solution, stirring at elevated temps., cooling to 50°, adding 15.06 g p-diphenoxylbenzene and 307.3 g II solution, and stirring 64 h at 50° gave a polymer with inherent viscosity 14.4 dL/g (0.05 g/L, II), which provided a 4-mil-thick extruded film with tensile strength 49,000 psi, tensile modulus 1,800,000 psi, and breaking elongation 29.8%.

L11 ANSWER 38 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1992:531641 CAPLUS
DN 117:131641
TI Chiral smectic side-chain copolymers - I. Synthesis and phase behavior
AU Kozlovskii, M. V.; Fodor-Csorba, K.; Bata, L.; Shibaev, V. P.
CS Inst. Crystallogr., Moscow, 117333, Russia
SO European Polymer Journal (1992), 28(8), 901-5
CODEN: EUPJAG; ISSN: 0014-3057

DT Journal
LA English

AB Copolymers are prepared in which chiral monomer units are combined with those of a tilted smectic homopolymer. Copolymers with the proportion of chiral units not exceeding 37% form a SF* phase and have therefore ferroelec. properties.

L11 ANSWER 39 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1992:21701 CAPLUS
DN 116:21701
TI Aromatic thermotropic polyester compositions and their preparation
IN Judas, Didier; Douais, Patrick
PA Atochem S. A., Fr.
SO Eur. Pat. Appl., 29 pp.
CODEN: EPXXDW

DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 425341	A1	19910502	EP 1990-402884	19901016
				R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE	

FR 2653436	A1	19910426	FR 1989-13923	19891024
NO 9004550	A	19910425	NO 1990-4550	19901022
CA 2028309	AA	19910425	CA 1990-2028309	19901023
AU 9064854	A1	19910502	AU 1990-64854	19901023
CN 1051185	A	19910508	CN 1990-108536	19901024
HU 55424	A2	19910528	HU 1990-6540	19901024
JP 03153729	A2	19910701	JP 1990-286917	19901024
US 5138021	A	19920811	US 1990-602611	19901024

PRAI FR 1989-13923 19891024
 AB The title polymers, useful as fibers and moldings, comprise repeating units O-p-C₆H₄O-p-C₆H₄CO 2.5-60, COAr₁CO (Ar₁ = aromatic, alicyclic radicals) 2.5-45.5, OAr₂O (Ar₂ = aromatic radical) 2.5-45.5, and O-p-C₆H₄CO 0-95% in which all of the aromatic or alicyclic radicals may be substituted.

Polymerizing
 a mixture of p-(acetoxy-p-phenoxy)benzoic acid 0.1, terephthalic acid 0.1, hydroquinone diacetate 0.1, and p-acetoxybenzoic acid 0.1 mol at 250° for 50 min, at 250° increasing to 300° for 90 min, at 300° for 60 min, at 300° increasing to 340° for 10 min, and at 340° for 25 min gave a polymer with m.p. 315° and anisotropic region 315->375°.

L11 ANSWER 40 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1991:584252 CAPLUS
 DN 115:184252
 TI Conformation and steric energy of macromolecules calculated by the method of molecular mechanics
 AU Cheng, Jianding; Lin, Yongwei; Wu, Xugui; Li, Shijin
 CS Spec. Polym. Mater. Lab., East China Univ. Chem. Technol., Shanghai, 200237, Peop. Rep. China
 SO Chinese Science Bulletin (1991), 36(5), 390-4
 CODEN: CSBUEF; ISSN: 1001-6538
 DT Journal
 LA English
 AB A mol. mechanics-based model for calculating the steric energy of aromatic polyesters was presented. From this model's data much information related to the structure of the polyester was obtained.

L11 ANSWER 41 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1991:559905 CAPLUS
 DN 115:159905
 TI Aromatic ether-ketone-'X' polymers. Part 1. Synthesis and properties
 AU Horner, Patrick J.; Whiteley, Richard H.
 CS Raychem Ltd., Dorcan/Swindon/Wiltshire, SN3 5HH, UK
 SO Journal of Materials Chemistry (1991), 1(2), 271-80
 CODEN: JMACEP; ISSN: 0959-9428
 DT Journal
 LA English
 AB A modified Friedel-Crafts polymerization was used to make a variety of aromatic ether-ketone-X (EKX) polymers. The X groups incorporated were: imide, amide, sulfone, ester, azo, quinoxaline, aliphatic, fluoroaliph., and fluoroarom. Some properties of these EKX polymers are reported and discussed.

L11 ANSWER 42 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1991:450412 CAPLUS
 DN 115:50412
 TI Synthesis of segmented anisotropic-isotropic poly(aryl ester)poly(arylene ether) copolymers
 AU McGrath, J. E.; Cooper, K. L.; Waehamad, W.; Huang, H.; Wilkes, G. L.
 CS Dep. Chem., Virginia Polytech. Inst. and State Univ., Blacksburg, VA, 24061, USA
 SO Materials Research Society Symposium Proceedings (1990), 175(Multifunct.

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Mater.), 351-61
CODEN: MRS PDH; ISSN: 0272-9172

DT Journal
LA English

AB Carboxyl-functionalized poly(arylene ether) oligomers of controlled number-average mol. weight were synthesized via nucleophilic aromatic substitution step

polymerization using p-hydroxybenzoic acid as the mol. weight and end-group controlling reagents. The subsequent functionalized polyarylene ethers were copolymerd. with acetoxybenzoic acid or acetoxyphenoxybenzoic acid via melt acidolysis. Successful copolymers were generated using PhCl as a solvent for the 1st stage of the reaction followed by melt reaction at temps. $\leq 325^\circ$. Resulting copolymer composition and segment size were investigated. It was possible to prepare improved solvent-resistant copolymers through incorporation of the liquid crystal polyester (LCP) segment. Extraction tests using boiling CHCl₃ showed that a high percentage of segmented copolymer was generated. Swelling characteristics increased as a function of the LCP concentration utilized. Multiple transitions in DSC were consistent with glass temps., melting temps., and possibly with liquid crystal transitions. Optical microscopy showed an ordered microstructure developed which was consistent with the presence of liquid crystalline phases. The materials were successfully compression molded to afford tough coherent films at all compns., implying the likelihood of improved compressive strength relative to the LCP homo- or copolymers.

L11 ANSWER 43 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:208015 CAPLUS
DN 114:208015
TI N-Substituted carbamoyllactam functional compounds and polylactam block copolymers derived therefrom
IN Vriesema, Bindert Klaas; Van Geenen, Albert Arnold; Lange, Ronald Frans Maria; Shroder, Christiaan
PA Stamicarbon B. V., Neth.
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 404254	A1	19901227	EP 1990-201587	19900619
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
	NL 8901570	A	19910116	NL 1989-1570	19890622
	CA 2019370	AA	19901222	CA 1990-2019370	19900620
	JP 03074431	A2	19910329	JP 1990-163035	19900622
	DE 4041963	A1	19920625	DE 1990-4041963	19901224

PRAI NL 1989-1570 19890622

AB The title compds., useful in preparation of block polyamides for use in polyamide blends, are prepared by reacting P(AH)_x (a liquid crystalline compound of mol. weight ≥ 150 containing ≥ 1 OH or NH group) at $\geq 80^\circ$ with lactam-blocked polyisocyanates. Thus, a solution of 87.5 g 2:1 **hydroquinone-terephthaloyl chloride adduct** in 300 mL PhMe was added dropwise to a stirred 70° solution of 84 g 1,6-hexane diisocyanate and 3 drops Bu₂Sn dilaurate in 150 mL PhMe over 3 h, and reacted 4 h at 70° , then mixed with 57 g dry caprolactam and refluxed at 112° with stirring to give a carbamoyllactam-functional liquid crystalline compound

L11 ANSWER 44 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:103132 CAPLUS
DN 114:103132

10652797

TI Solid-state CPMAS carbon-13 NMR study of thermotropic aromatic polyesters: effect of the structure of mesogens on the conformations
AU Kato, Takashi; Fujishima, Akira; Uryu, Toshiyuki; Matsushita, Nobuyuki; Yamaguchi, Hiromichi
CS Fac. Eng., Univ. Tokyo, Tokyo, 113, Japan
SO New Polymeric Materials (1990), 2(3), 255-66
CODEN: NPMAE8; ISSN: 0169-6424
DT Journal
LA English
AB Solid-state structures of thermotropic **hydroquinone**-1,6-bis(phenoxy)hexane-4-4'-dicarboxylic acid copolymer (I) prepared by solution polymerization were examined by CP/MAS 13C-NMR. The spectral features suggested that, for an original sample, the mesogenic aromatic unit formed a planar conformation and the spacer adopted a torsion gauche angle in the solid state. However, the polymer chain could keep an overall linear form. This conformational feature was different from that of terephthalic acid-4,4'-dihydroxy-1,6-diphenoxylhexane copolymer (II), in which the spacer was in the all-trans form. Both of these polymers exhibited nematic phases. The melting and clearing transitional temps. of I were higher than those of II. Similar trends were also observed for their model compds. The solid-state structures and thermal properties of thermotropic polyesters with aromatic triad mesogens and flexible spacers were noticeably affected by the change of the direction of the ester linkage.

L11 ANSWER 45 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:82888 CAPLUS
DN 114:82888
TI Molecular mass dependence of properties in selected poly(2-alkyl-1,4-phenylene terephthalates)
AU Majnusz, Jerzy
CS Inst. Phys. Chem. Technol. Polym., Silesian Tech. Univ., Gliwice, Pol.
SO Molecular Crystals and Liquid Crystals (1990), 193, 161-5
CODEN: MCLCA5; ISSN: 0026-8941
DT Journal
LA English
AB The properties of selected model compds., oligomers, and the title polymers consisting of rodlike mol. backbones and flexible pendant alkyl groups were discussed.

L11 ANSWER 46 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:25255 CAPLUS
DN 114:25255

TI Mesogenic advanced aromatic epoxy resins
IN Earls, Jimmy D.; Puckett, Paul M.
PA Dow Chemical Co., USA
SO Eur. Pat. Appl., 37 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 379055	A2	19900725	EP 1990-100485	19900111
	EP 379055	A3	19920527		
	EP 379055	B1	19991110		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, SE				
	AT 186558	E	19991115	AT 1990-100485	19900111
	ES 2137917	T3	20000101	ES 1990-100485	19900111
	CA 2007814	AA	19900717	CA 1990-2007814	19900116
	NO 9000222	A	19900718	NO 1990-222	19900116
	JP 02232220	A2	19900914	JP 1990-4655	19900116
	JP 2992047	B2	19991220		

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ZA 9000296	A	19910925	ZA 1990-296	19900116
BR 9000234	A	19901113	BR 1990-234	19900117
US 5266661	A	19931130	US 1992-945311	19920915
US 5270406	A	19931214	US 1992-945312	19920915
GR 3032390	T3	20000531	GR 2000-400084	20000114
PRAI US 1989-297896	A	19890117		
US 1990-553930	B2	19900713		
US 1990-556607	B2	19900713		
US 1990-620509	B2	19901111		
US 1990-620505	B2	19901130		
US 1992-834033	B2	19920211		
US 1992-834061	B2	19920211		

AB Mesogenic products are manufactured by reaction of epoxy resins with compds. having ≥ 1 active H atom and ≥ 2 benzene rings bridged by a rigid linkage. Heating 9 g N,N'-diphenylterephthalamide (prepared from 0.43 mol terephthaloyl chloride and 0.86 mol aniline in Me₂CO with NaOH) with 300.1 g bisphenol A diglycidyl ether (epoxide equivalent weight 177.7) at 248° for 1.5 h gave a compound (I) with epoxide content 22.7%. A mixture of 147 g I and 35.81 g diethyltoluenediamine at 120° was poured into a mold, heated 2 h at 180°, and cooled to give a sample containing dispersed crystallites and having tensile strength 9920 psi.

L11 ANSWER 47 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1991:15445 CAPLUS

DN 114:15445

TI Preparation of benzoate esters for liquid crystal compositions

IN Hirai, Toshihiro; Yoshizawa, Atsushi; Nishiyama, Isa; Fukumasa, Mitsuchika; Yokoyama, Akihisa

PA Nippon Mining Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

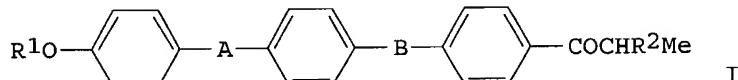
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01313456	A2	19891218	JP 1988-143483	19880613
	JP 07103072	B4	19951108		

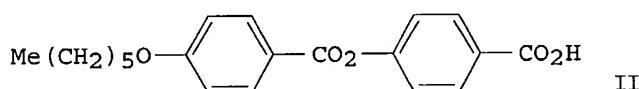
PRAI JP 1988-143483 19880613

OS MARPAT 114:15445

GI



I



II

AB Benzoate esters (I; R₁, R₂ = alkyl; A, B = CO₂, OCO), useful for liquid crystal compns. for optoelectronics, light valves, electrochromic devices, and optical display devices, are prepared 4-Me(CH₂)₅O₂C₆H₄COCl was added to a solution of 4-HOC₆H₄CO₂H in pyridine at room temperature and the mixture stirred at 50° to give 15% ester II, which was treated with (+)-4-HOC₆H₄COCHMe(CH₂)₅Me, 4-(dimethylamino)pyridine, and DCC in CH₂Cl₂ at room temperature to give 25% ester I (R₁ = R₂ = hexyl, A = B = CO₂) having an

isotropic-smectic A transition point of 146° and a smectic A-chiral smectic transition point of 90°.

L11 ANSWER 48 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1990:572928 CAPLUS
 DN 113:172928
 TI Copolymers containing polybenzoxazole, polybenzothiazole and polybenzimidazole moieties
 IN Harris, William J.; Hwang, Wen Fang
 PA Dow Chemical Co., USA
 SO PCT Int. Appl., 212 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9003995	A1	19900419	WO 1989-US4464	19891006
	W: JP, KR				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	US 5089568	A	19920218	US 1988-256338	19881011
	US 5030706	A	19910709	US 1989-327925	19890323
	US 5110894	A	19920505	US 1989-378360	19890707
	US 5151489	A	19920929	US 1989-407973	19890915
	EP 392008	A1	19901017	EP 1989-912725	19891006
	R: BE, CH, DE, FR, GB, IT, LI, NL				
	JP 03501751	T2	19910418	JP 1989-511754	19891006
PRAI	US 1988-256338		19881011		
	US 1989-327925		19890323		
	US 1989-378360		19890707		
	US 1989-407973		19890915		
	WO 1989-US4464		19891006		
AB	A block copolymer comprises a (1) polybenzazole block having ≥10-mer units; and (2) a thermoplastic block linked to the polybenzazole block containing a polyamide, polyimide, polyquinoxaline, polyquinoline, poly(aromatic ketone), poly(aromatic sulfone) or aromatic ether (co)polymer of ≥1 of those polymers, with 2 comprising ≥2-mer units or having an average formula weight .apprx.800. A dope from 4,6-diaminoresorcinol-2HCl 75 g and terephthaloyl chloride (I) 69.3 g was prepared in polyphosphoric acid 314 g containing 76 weight% P2O5 under N.				

Heating
 at 95°, adding 179 g P2O5, and continuing the reaction with stirring for 8 h at 95° and 16 h at 150° and 24 h at 190° gave dope which was stored under N. A polyamide was prepared from I 14.10 in 400 mL N-methylpyrrolidinone (II) and bis(4-aminophenyl) ether 13.49 and CaCl2 4.29 g, followed by washing with 100 mL of II. The polyamide was precipitated and collected (20.49 g). The polyamide 3 g and

15.05 g of the dope were added with stirring to 84 g 10:1 MeSO3H-P2O5 mixture Heating 16 h at 70° and 48 h at 90° gave the cis-polybenzoxazole-polyamide block copolymer with inherent viscosity 4.07 dL/g.

L11 ANSWER 49 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1990:516495 CAPLUS
 DN 113:116495
 TI Liquid-crystalline esters and their preparation and use as modifiers for polycarbonates, polyestercarbonates, and polyesters
 IN Pielartzik, Harald; Meyer, Rolf Volker; Dujardin, Ralf; Schnitzler, Axel; Traenckner, Hans Joachim
 PA Bayer A.-G., Germany
 SO Eur. Pat. Appl., 31 pp.

10652797

CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 354347	A2	19900214	EP 1989-112307	19890706
	EP 354347	A3	19900808		
	R: DE, ES, FR, GB, IT, NL				
	DE 3824365	A1	19900426	DE 1988-3824365	19880719
	JP 02073848	A2	19900313	JP 1989-179190	19890713
	US 5084549	A	19920128	US 1991-643462	19910118
	US 5089590	A	19920218	US 1991-643442	19910118
PRAI	DE 1988-3824365		19880719		
	US 1989-377320		19890710		
OS	CASREACT 113:116495; MARPAT 113:116495				
AB	The title esters $R_1[(ZM_1Z_0C_2)n(Z_1C_0_2)m]_o(ZM_2Z)pR_2$ ($R_1, R_2 = H, Cl$, alkoxy, cycloalkyl, aryloxy, fluoroalkyl, etc.; $Z = p\text{-C}_6\text{H}_4$; $M_1, M_2 = \text{CO}_2, \text{CONH}$, $\text{N:N}, \text{CH:N}$, etc.; $Z_1 = \text{divalent mono- or polynuclear aromatic group}$; $n = 1\text{--}2$; $m = 0\text{--}2$; $o = 1\text{--}3$; $p = 0\text{--}1$) are prepared and added to the title polymers to improve the melt processability, stiffness, flexural strength, dimensional stability and surface properties. Polymers containing the esters are especially useful for recording acoustic and/or optical data, e.g., as compact disks. 4-Hydroxyphenyl 4-methoxybenzoate was prepared from hydroquinone and $p\text{-(MeO)C}_6\text{H}_4\text{CO}_2\text{H}$ and used with $p\text{-(MeO)C}_6\text{H}_4\text{COCl}$ in the preparation of 4-(4'-methylbenzoyloxy)phenyl 4-methoxybenzoate (I). A 95:5 polycarbonate (Macrolon 2800)-I mixture had melt processing temperature 260°, elongation 65%, tensile modulus 2940 MPa, flexural strength 120 MPa, and flexural modulus 2710 MPa, vs. 300, 80, 2400, 95, and 2200, resp., without I.				

L11 ANSWER 50 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1989:440385 CAPLUS

DN 111:40385

TI Synthesis of polyphenylene ether and thioether ketones

AU Durvasula, V. R.; Stuber, F. A.; Bhattacherjee, D.

CS North Haven Lab., Dow Chem. USA, North Haven, CT, 06473, USA

SO Journal of Polymer Science, Part A: Polymer Chemistry (1989), 27(2), 661-9

CODEN: JPACEC; ISSN: 0887-624X

DT Journal

LA English

AB The polymerization of 4,4'-difluorobenzophenone (I) with the dianion of **hydroquinone** to PEEK and polymerization of either I with the dianion of 4,4'-dihydroxybenzophenone or self-polycondensation of the anion of 4-hydroxy-4'-fluoro-benzophenone to poly(phenylene ether ketone) (PEK) were studied in N-cyclohexyl-2-pyrrolidone (II), which is a high-boiling aprotic polar solvent. The reactivity in II can be ascribed to effective solvation of metal ions rendering the anion very reactive toward nucleophilic substitution. The polymerization was extended to 4,4'-bis(4-fluorobenzoyl)diphenyl ether and 1,4-bis[4-(4-fluorobenzoyl)phenoxy]benzene to give a high-mol.-weight polymer with PEK and PEEK repeating units and PEEK, resp. The polymerization of I with purified anhydrous Na_2S in II gave rapidly a high mol. weight poly(phenylene ketone sulfide) (PKS). In contrast, di-Ph sulfone was not very effective in obtaining such a high-mol.-weight PKS even with prolonged heating, which suggests the uniqueness of II in promoting a high degree of polymerization

L11 ANSWER 51 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1988:550137 CAPLUS

DN 109:150137

TI Synthesis and properties of aromatic copolymers with different monomer

10652797

sequences

AU Jin, Jung Il; Lee, Suck Hyun; Park, Ho Jin
CS Coll. Sci., Korea Univ., Seoul, 136-701, S. Korea
SO Polymer Bulletin (Berlin, Germany) (1988), 20(1), 19-23
CODEN: POBUDR; ISSN: 0170-0839
DT Journal
LA English
AB A random aromatic copolyester was prepared from 1:1:1 molar ratio of p-hydroxybenzoic acid, **hydroquinone**, and isophthalic acid. The properties of the polymer were compared with those of the polymer prepared from 4-hydroxyphenyl 4'-hydroxybenzoate and isophthalic acid. The latter exhibited much higher m.p. and also higher degree of crystallinity than the former. Moreover, their crystal structures were quite different. Both of them were thermotropic.

L11 ANSWER 52 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1988:438336 CAPLUS

DN 109:38336
TI Synthesis and properties of some semiflexible polyesters
AU Costa, Giovanna; Nora, Angelo; Trefiletti, Vincenzo; Valenti, Barbara
CS Cent. Studi Chim.-Fis. Macromol. Sint. Nat., Genoa, I-16132, Italy
SO Molecular Crystals and Liquid Crystals (1988), 157, 79-95
CODEN: MCLCA5; ISSN: 0026-8941

DT Journal
LA English
AB The synthesis and the thermotropic behavior of polyesters based on flexible spacer of eight methylene units and two aromatic ester triads built up with terephthalic acid and **hydroquinone** or 2-methylhydroquinone were studied. A low-mol.-weight model, bis(4-valeroyloxyphenyl) terephthalate, was also prepared. The structural influence of the rigid segment on the thermotropic behavior of low- and high-mol.-weight compds. was discussed in terms of onset, nature and thermal stability of the mesophases.

L11 ANSWER 53 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1987:588246 CAPLUS

DN 107:188246
TI Optically active liquid crystal compounds and liquid crystal compositions
IN Miyazawa, Kazutoshi; Inoue, Hiromichi; Inukai, Takashi; Terajima, Kenji
PA Chisso Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62026250	A2	19870204	JP 1985-165564	19850726
	JP 06088952	B4	19941109		
	US 4729847	A	19880308	US 1986-889093	19860710
	EP 212838	A1	19870304	EP 1986-305410	19860714
	EP 212838	B1	19901003		

R: CH, DE, FR, GB, LI

PRAI JP 1985-165564 19850726

AB Optically active liquid crystal compds. of the formula p-R1C6H4X-p-C6H4Y-p-C6H4R2 (X = CH2O, OCH2; Y = CO2, O2C; one of R1 and R2 is an optically active alkyl, alkoxy, or alkoxy carbonyl, and the other is C4-18 alkyl, alkoxy) and chiral smectic liquid crystal compns. containing the optical active compd(s). are claimed. Optically active 1-methylheptyl p-toluenesulfonate prepared by esterification of p-toluenesulfonyl chloride with S(+)-2-octanol was reacted with **hydroquinone** monobenzyl ether to give p-(1-methylheptyloxy)phenol whose reaction with p-benzoyloxybenzoyl

chloride yielded p-(1-methylheptyloxy)phenyl p-benzoyloxybenzoate (I). Reduction of I with PdC and subsequent etherification reaction with p-dodecyloxybenzyl chloride gave p-(1-methylheptyloxy)phenyl p-(p-decyloxybenzyloxy)benzoate, which showed a chiral smectic C phase at 85.9-105.3°.

L11 ANSWER 54 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1987:516043 CAPLUS
 DN 107:116043
 TI Ferroelectric liquid-crystalline polymethacrylates
 AU Shibaev, V. P.; Kozlovskii, M. V.; Plate, N. A.; Beresnev, L. A.; Blinov, L. M.
 CS Mosk. Gos. Univ., Moscow, USSR
 SO Vysokomolekulyarnye Soedineniya, Seriya A (1987), 29(7), 1470-5
 CODEN: VYSAAF; ISSN: 0507-5475
 DT Journal
 LA Russian
 AB H₂C:CM₂CO₂(CH₂)₁₀CO₂-p-C₆H₄O₂C-p-C₆H₄CO₂R (R = CH₂CHMeEt or CH₂CHClCH₂CHMe₂; I or II, resp.) were prepared via a multistage procedure and homopolymerd. to give the title polymers. Cooling the isotropic melts of these polymers resulted in the formation of an A-type smectic phase with fan texture at 85° for I homopolymer and in the formation of a disordered A-type smectic phase at 79° for II homopolymer. The A-type smectic phases of I and II homopolymers transformed into C-type chiral smectic phases at 73 and 71°, resp. The side mesogenic groups of both polymers in liquid-crystalline state had a simple monolayer packing order. Both polymers showed pyroelec. effect (γ) and spontaneous polarization (P) in liquid-crystalline state. The temperature dependencies of γ and P of the polymers were similar to those of low-mol.-weight liquid-crystalline ferroelecs., but the values of γ and P of the polymers were substantially lower. The γ and P of II homopolymer were higher than those of I homopolymer by a factor of >6 and 2.5, resp.

L11 ANSWER 55 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1987:120320 CAPLUS
 DN 106:120320
 TI Phase-transfer catalytic synthesis of aromatic polyesters and their mesomorphic behavior. I. Synthesis of polyesters and their mesomorphic behavior
 AU Wang, Xueqiu; Wu, Horong; Li, Shijin
 CS Dep. Polym. Mater., East China Inst. Chem. Technol., Shanghai, Peop. Rep. China
 SO Huadong Huagong Xueyuan Xuebao (1986), 12(1), 1-9
 CODEN: HHKPDM; ISSN: 0253-9683
 DT Journal
 LA Chinese
 AB Hydroquinone-p,p'-1,4,7-trioxaheptamethylenedibenzoyl chloride (I) copolymer (II) [103747-14-4], p,p'-1,8-dioxaoctamethylenediphenol-terephthaloyl chloride copolymer (III) [103747-15-5], bisphenol A-I copolymer (IV) [103747-16-6], and phenolphthalen-I copolymer (V) [107206-44-0] were prepared and characterized by IR, x-ray diffraction, DSC, depolarization light intensity, and polarizing microscope. II and III were thermotropic liquid crystals with clearing point 237° and 327°, resp. Liquid crystalline behavior was not shown for IV and V. The mesophases of II and III were nematic.

L11 ANSWER 56 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1987:120314 CAPLUS
 DN 106:120314
 TI Liquid-crystalline polymers. 1. Synthesis and structure-properties relationship in some liquid-crystalline poly(ether esters)

10652797

AU Jedlinski, Zbigniew; Franek, Jan; Kuziw, Piotr
CS Inst. Polym. Chem., Pol. Acad. Sci., Zabrze, 41-800, Pol.
SO Makromolekulare Chemie (1986), 187(10), 2317-24
CODEN: MACEAK; ISSN: 0025-116X
DT Journal
LA English
AB Liquid crystalline aromatic-aliphatic poly(ether esters) with mesogenic groups of different isomeric structures and flexible bis- and tris(oxyethylene) spacers in the backbone were synthesized and their properties were studied. The influence of the mesogenic group structure, spacer length and nature of bonds linking the mesogenic groups and the spacers, on the phase transition temps. was elucidated. On the basis of optical textures, observed in the polarizing microscope, smectic or nematic melts were found to be present in the polymers studied, depending on the mesogenic group structure.

L11 ANSWER 57 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1986:573207 CAPLUS

DN 105:173207

TI Monomer preparation

IN Towle, Ian David Henderson

PA Raychem Ltd., UK

SO PCT Int. Appl., 43 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8602348	A1	19860424	WO 1985-GB459	19851011
	W: JP, US				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	ES 547656	A1	19870201	ES 1985-547656	19851007
	CA 1261536	A1	19890926	CA 1985-492725	19851010
	EP 178185	A2	19860416	EP 1985-307321	19851011
	EP 178185	A3	19890524		
	EP 178185	B1	19910410		
	R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
	JP 61091225	A2	19860509	JP 1985-227632	19851011
	JP 06076491	B4	19940928		
	BR 8505062	A	19860729	BR 1985-5062	19851011
	EP 198865	A1	19861029	EP 1985-905074	19851011
	EP 198865	B1	19900523		
	R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
	JP 62500382	T2	19870219	JP 1985-504512	19851011
	ZA 8507835	A	19870624	ZA 1985-7835	19851011
	AT 53002	E	19900615	AT 1985-905074	19851011
	AT 62495	E	19910415	AT 1985-307321	19851011
	IL 77082	A1	19890910	IL 1985-77082	19851118
	US 4777282	A	19881011	US 1986-877658	19860603
	US 4841094	A	19890620	US 1988-204650	19880729
	US 5041611	A	19910820	US 1989-355935	19890523
PRAI	US 1984-659599		19841011		
	GB 1985-21324		19850827		
	EP 1985-307321		19851011		
	EP 1985-905074		19851011		
	WO 1985-GB459		19851011		
	US 1986-877658		19860603		
	US 1988-204650		19880729		

AB Aromatic monomers are prepared by reaction of Group IIIB, IVB, or VB organometallic compds. (e.g., stannylated compds.) with other compds.

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[e.g., (di)acid chlorides]. Thus, 50 g thiophenol was condensed with 135.3 g bis(tributyltin) oxide, then refluxed with 46.06 g isophthaloyl dichloride for 3 h, giving 96% PhSCO-m-C₆H₄-COSPh.

L11 ANSWER 58 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1986:498038 CAPLUS
DN 105:98038
TI Phase-transfer catalytic synthesis of aromatic polyesters and their mesomorphic behavior. I. Synthesis of polyesters and their mesomorphic behavior
AU Wang, Xueqiu; Wu, Hojung; Li, Shijin
CS Dep. Polym. Mater., East China Inst. Chem. Technol., Shanghai, Peop. Rep. China
SO Huadong Huagong Xueyuan Xuebao (1986), 12(1), 1-9
CODEN: HHKPDM; ISSN: 0253-9683
DT Journal
LA Chinese
AB **Hydroquinone-p,p'-1,4,7-trioxaheptamethylenedibenzoyl chloride** (I) copolymer (II) [103728-34-3], **p,p'-1,8-dioxaoctamethylene diphenoxide-terephthaloyl chloride copolymer** (III) [103728-35-4], bisphenol A-I copolymer (IV) [103728-36-5], and phenolphthalein-I copolymer (V) [103728-37-6] were prepared and characterized. II and III were thermotropic liquid crystals with clear point 237° and 327°, resp. No liquid crystalline behavior was shown for IV and V. With reference to the DSC data and the optical textures observed by the polarizing microscope, the mesophase of II and III were nematic.

L11 ANSWER 59 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1985:423133 CAPLUS
DN 103:23133
TI Liquid crystal polymers: 16 polar substituent effects on thermotropic properties of aromatic polyesters
AU Zhou, Qi-Feng; Lenz, Robert W.; Jin, Jungil
CS Chem. Eng. Dep., Univ. Massachusetts, Amherst, MA, 01003, USA
SO Polymer Science and Technology (Plenum) (1985), 28(Polym. Liq. Cryst.), 257-64
CODEN: POSTB5; ISSN: 0093-6286
DT Journal
LA English
AB A comparison of m.ps. and glass temps. for liquid-crystalline polyesters prepared from 1,10-bis(p-chloroformylbenzoyloxy)decane and 2-substituted hydroquinone shows that the polarity of the substituent on the hydroquinone has little effect, and the main factor is the steric effect. There is no simple correlation between polar effect and thermotropic properties of the polyesters, but clearing temps. of liquid-crystalline polyesters substituted with polar groups are higher than for Me-substituted polyesters.

L11 ANSWER 60 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1985:200595 CAPLUS
DN 102:200595
TI A new generation of calcium indicators with greatly improved fluorescence properties
AU Grynkiewicz, Grzegorz; Poenie, Martin; Tsien, Roger Y.
CS Dep. Physiol. Anat., Univ. California, Berkeley, CA, 94720, USA
SO Journal of Biological Chemistry (1985), 260(6), 3440-50
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
AB A new family of highly fluorescent indicators has been synthesized for biochem. studies of the physiol. role of cytosolic free Ca²⁺. The compds.

combine an 8-coordinate tetracarboxylate chelating site with stilbene chromophores. Incorporation of the ethylenic linkage of the stilbene into a heterocyclic ring enhances the quantum efficiency and photochemical stability of the fluorophore. Compared to their widely used predecessor, quin2, the new dyes offer up to 30-fold brighter fluorescence, major changes in wavelength not just intensity upon Ca²⁺ binding, slightly lower affinities for Ca²⁺, slightly longer wavelengths of excitation, and considerably improved selectivity for Ca²⁺ over other divalent cations. These properties, particularly the wavelength sensitivity to Ca²⁺, should make these dyes the preferred fluorescent indicators for many intracellular applications, especially in single cells, adherent cell layers, or bulk tissues.

L11 ANSWER 61 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1984:415451 CAPLUS
 DN 101:15451
 TI Effect of mesogenic unit and spacer structures on the thermotropic properties of main chain liquid crystal polyesters
 AU Lenz, Robert W.; Jin, Jung Il
 CS Chem. Eng. Dep., Univ. Massachusetts, Amherst, MA, 01003, USA
 SO Liquid Crystals and Ordered Fluids (1984), 4, 347-62
 CODEN: LCOFDL; ISSN: 0146-5597
 DT Journal
 LA English
 AB The effects were studied of structures of both the mesogenic units and nonmesogenic spacers on the thermotropic liquid crystal (LC) properties. The LC with a central **hydroquinone** group is more stable than with a central terephthaloyl group but less stable than with biphenyl group. The spacer was the same for all polymers. The effects of lateral substitution on the middle -C₆H₄- ring were also determined and discussed. The effect of the structure of both rigid and flexible spacers on the properties and nature of the mesophase were determined and discussed.

L11 ANSWER 62 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1984:192690 CAPLUS
 DN 100:192690
 TI Substituent effects on the liquid-crystalline properties of thermotropic polyesters
 AU Zhou, Qi Feng; Lenz, Robert W.
 CS Chem. Eng. Dep., Univ. Massachusetts, Amherst, MA, 01003, USA
 SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1983), 24(2), 255-6
 CODEN: ACPPAY; ISSN: 0032-3934
 DT Journal
 LA English
 AB The glass temperature, m.p., clearing point, and mesophase thermal stability of liquid crystalline 1,10-bis(p-chloroformylbenzoyloxy)decane-**hydroquinone** copolymer (I) [88190-52-7] were depressed by substitution with n-alkyl or polar groups such as OMe, Br, CN, or NO₂. I substituted with C \geq 8 n-alkyl or OMe did not form liquid crystals.

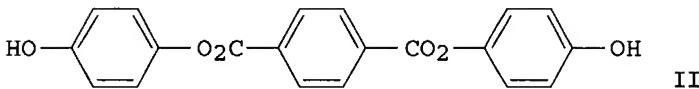
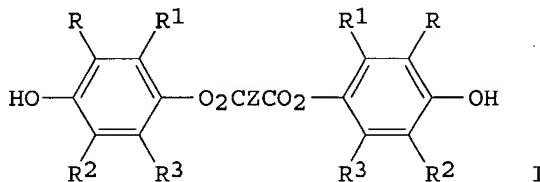
L11 ANSWER 63 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1982:572417 CAPLUS
 DN 97:172417
 TI **Hydroquinone** derivatives and their use in photographic materials
 IN Postle, Stephen Roderick; Thomas, Patrick David Pryce; Whitear, Brian Ronald David
 PA Ciba-Geigy A.-G. , Switz.
 SO Eur. Pat. Appl., 16 pp.
 CODEN: EPXXDW
 DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 49686	A1	19820414	EP 1981-810393	19810928
	EP 49686	B1	19840606		
	R: BE, CH, DE, FR, GB, IT				
	JP 57099640	A2	19820621	JP 1981-153082	19810929
	US 4417072	A	19831122	US 1981-306846	19810929
	US 4443537	A	19840417	US 1982-422926	19820924
PRAI	GB 1980-31742		19801002		
	US 1981-306846		19810929		

GI



AB **Hydroquinone** derivs. (I; R-R3 = H or C1-4 alkyl; Z = an aromatic ring or an aromatic group linked by electron withdrawing groups) are described which are water-insol. but cleave rapidly in alkaline solution and which exhibit superior storage stability and little tendency to cause stain or tanning problems when a photog. material containing them therein is activation processed. Thus, a solution containing an aqueous dispersion of II (prepared by bead milling II 1 g, distilled water 10, 30% anionic wetting agent 0.25, and 2 mm glass beads 50 mL) 2, a gelatin-Ag(Br,Cl) emulsion (25 mg Ag/dm²) 0.90, 10% gel (decarbonized blend) 0.50, 1% aqueous HCHO 1, 1% anionic wetting agent 0.15, 1% nonionic wetting agent 0.15, and water to 10 mL was coated on a triacetate base attached to a glass plate at 285 mg II/dm², dried, exposed, and treated with a 2 N NaOH activator solution for 10 s, washed, fixed, washed, and dried to give a Dmax of 2.20 vs. 0.59 for a control containing p-HOC₆H₄O₂CPh.

L11 ANSWER 64 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1982:528201 CAPLUS
 DN 97:128201

TI Liquid crystal polymers. X. Synthesis and properties of new thermotropic main chain copolymers with either mixed polymethylene spacers or mixed mesogenic units

AU Jin, Jung Il; Lenz, Robert W.; Antoun, S.
 CS Chem. Dep., Korea Univ., Seoul, 132, S. Korea
 SO Taehan Hwahakhoe Chi (1982), 26(3), 188-93
 CODEN: DHWHAB; ISSN: 0418-2472

DT Journal
 LA English

AB Four new thermotropic copolymers were prepared from terephthaloyl chloride and 1 of 3 bisphenols and from 4,4'-bis(chloroformyl)-1,10-diphenoxycdecane and **hydroquinone** derivs., and their liquid crystal properties were investigated by differential scanning calorimetry and hot-stage polarizing

microscope. Three copolymers had the same mesogenic unit, a triad aromatic ester structure, interconnected through a random combination of either odd-even or odd-odd or even-even methylene groups in the polymethylene flexible spacers. Another random copolyester consisted of mesogenic units of 1:1 mixture of central methyl- and bromohydroquinone moieties with two flanking p-oxybenzoate units connected by a decamethylene spacer. All of the polyesters formed a nematic liquid crystal phase upon melting. The transitions for melting and nematic \rightarrow isotropic transformations could be reversibly observed by DSC and microscopy. The thermodn. properties for their liquid crystal \rightarrow isotropic phase transitions were discussed in relation to their chemical structures.

L11 ANSWER 65 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1982:439581 CAPLUS
 DN 97:39581
 TI Liquid crystal polymers. VI. Synthesis and properties of main chain thermotropic polyesters with disiloxane spacers
 AU Jo, B.-W.; Jin, J.-I.; Lenz, R. W.
 CS Chem. Eng. Dep., Univ. Massachusetts, Amherst, MA, 01003, USA
 SO European Polymer Journal (1982), 18(3), 233-9
 CODEN: EUPJAG; ISSN: 0014-3057
 DT Journal
 LA English
 AB Thermotropic, liquid crystalline polyester-siloxanes were prepared and their thermal properties and the characteristics of their mesophases were determined by differential scanning calorimetry, hot-stage polarizing microscopy, and small-angle light scattering. Equimolar copolymers containing both siloxane and decamethylene spacers were also prepared and characterized. All the polymers formed nematic phases, and the thermodn. of their nematic-isotropic phase transitions were explained on the basis of structure.

L11 ANSWER 66 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1982:68583 CAPLUS
 DN 96:68583

TI Substituted phenols
 PA Ihara Chemical Industry Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56135438	A2	19811022	JP 1980-38633	19800326
PRAI	JP 1980-38633		19800326		

AB R(R₁O)C₆H₃OH [R = H, halo, alkyl; R₁ = (un)substituted Ph] were prepared. Thus, 0.04 mol NaOH was added with stirring during 60 min to 0.16 mol hydroquinone in Me₂SO at 125 \pm 5° and then 0.28 mol KOH was added during another 60 min, temperature was raised to 140° and 0.1 mol 4-ClC₆H₄CF₃ was added and stirred for 7 h to give 24.2 g 4-F₃CC₆H₄OC₆H₄OH-4 (95.5% yield based on 4-ClC₆H₄CF₃).

L11 ANSWER 67 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1982:68582 CAPLUS
 DN 96:68582

TI Substituted phenols
 PA Ihara Chemical Industry Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese

10652797

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56135437	A2	19811022	JP 1980-38632	19800326
PRAI	JP 1980-38632		19800326		

AB R(R10)C6H3OH [I, R = H, halo, alkyl; R1 = (un)substituted Ph] were prepared Thus, stirring 0.48 mol **hydroquinone** with 0.96 mol KOH and 0.3 mol 4-ClC6H4CF3 at 145 ± 5° under N2 8 h gave 73.6 g 4-F3CC6H4OC6H4OH-4 (96.5% yield based on 4-ClC6H4CF3).

L11 ANSWER 68 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1982:68581 CAPLUS

DN 96:68581

TI Substituted phenols

PA Ihara Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56135436	A2	19811022	JP 1980-38631	19800326
PRAI	JP 1980-38631		19800326		

AB R(R10)C6H3OH [R = H, halo, alkyl; R1 = (un)substituted Ph] were prepared Thus, 0.054 mol NaOH was added with stirring during 60 min to 0.11 mol **hydroquinone** in Me2SO at 125 ± 5° under N2 and then 0.054 mol KOH was added during another 60 min., temperature was raised to 14° and 0.1 mol 4-ClC6H4CF3 was added and the mixture stirred 7 h to give 23.6 g 4-F3CC6H4OC6H4OH-4 (93% yield based on 4-ClC6H4CF3).

L11 ANSWER 69 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1981:620353 CAPLUS

DN 95:220353

TI Synthesis of articulated all-para benzobisoxazole polymers

AU Evers, Robert C.; Arnold, Fred E.; Helminiak, Thaddeus E.

CS Nonmet. Mater. Div., Air Force Mater. Lab., Wright-Patterson Air Force Base, OH, 45433, USA

SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1980), 21(1), 88-90

CODEN: ACPPAY; ISSN: 0032-3934

DT Journal

LA English

AB Dinitrile, dicarboxylic, dicarbonyl chloride, or dimethoxycarbonyl derivs. of diphenoxybenzene isomers were synthesized and polymerized with terephthalic acid and 4,6-diaminoresorcinol dihydrochloride to give the title polymers. The polymns. were conducted in freshly prepared polyphosphoric acid at a solids content of approx. 1% by heating to 70-90° to dehydrochlorinate the dihydrochloride and further heating to 190° over several days. The polymers were yellow to light brown fibrous materials which were soluble in methanesulfonic acid, chlorosulfonic acid, and sulfuric acid. Films exhibiting optical birefringence were cast from methanesulfonic acid solns. The thermooxidative stability of the polymers decreased as the amount of diphenoxybenzene monomer was increased.

L11 ANSWER 70 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1981:551506 CAPLUS

DN 95:151506

TI Liquid crystal polymers. IV. Thermotropic polyesters with flexible spacers in the main chain

AU Antoun, S.; Lenz, R. W.; Jin, J. I.

CS Chem. Eng. Dep., Univ. Massachusetts, Amherst, MA, 01003, USA

10652797

SO Journal of Polymer Science, Polymer Chemistry Edition (1981), 19(8),
1901-20
CODEN: JPLCAT; ISSN: 0449-296X

DT Journal
LA English

AB Two closely related series of polyesters containing mesogenic units interconnected by flexible spacers along the main chain were prepared from 4,4'-dihydroxy- α , ω -diphenoxylalkanes and terephthalic acid or from 1,10-bis(p-carboxyphenoxy)decane and hydroquinone or its derivs. and characterized for their liquid crystal properties. All of the polymers showed thermotropic behavior. The effect of the length of the flexible spacer and the nature of the substituent, which is on the central aromatic ring of the mesogenic unit, on the stability and mol. order of the mesophase for each of the polymers was investigated, and the results are discussed on the basis of the thermodn. data obtained.

L11 ANSWER 71 OF 95 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1981:481650 CAPLUS

DN 95:81650

TI Thermotropic liquid crystalline polyesters with rigid or flexible spacer groups

=>

ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF

LOGOFF? (Y)/N/HOLD:n

=>

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L13 STRUCTURE UPLOADED

	SINCE FILE ENTRY	TOTAL SESSION
COST IN U.S. DOLLARS		
FULL ESTIMATED COST	266.60	645.92
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-69.83	-86.00

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STRUCTURE FILE UPDATES: 26 JUL 2004 HIGHEST RN 717086-44-7

DICTIONARY FILE UPDATES: 26 JUL 2004 HIGHEST RN 717086-44-7

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

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Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

10652797

=> s 113
SAMPLE SEARCH INITIATED 17:45:58 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 1980 TO ITERATE

50.5% PROCESSED 1000 ITERATIONS 20 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**

PROJECTED ITERATIONS: 36931 TO 42269
PROJECTED ANSWERS: 415 TO 1169

L14 20 SEA SSS SAM L13

=> s 113 full
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FULL SCREEN SEARCH COMPLETED - 39408 TO ITERATE

100.0% PROCESSED 39408 ITERATIONS 762 ANSWERS
SEARCH TIME: 00.00.01

L15 762 SEA SSS FUL L13

=> s 115 and hydroquinone
4454 HYDROQUINONE
L16 9 L15 AND HYDROQUINONE

=> d 1-9 bib abs 116
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'ABS' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'

The following are valid formats:

Substance information can be displayed by requesting individual fields or predefined formats. The predefined substance formats are: (RN = CAS Registry Number)

REG	- RN
SAM	- Index Name, MF, and structure - no RN
FIDE	- All substance data, except sequence data
IDE	- FIDE, but only 50 names
SQIDE	- IDE, plus sequence data
SQIDE3	- Same as SQIDE, but 3-letter amino acid codes are used
SQD	- Protein sequence data, includes RN
SQD3	- Same as SQD, but 3-letter amino acid codes are used
SQN	- Protein sequence name information, includes RN
CALC	- Table of calculated properties
EPROP	- Table of experimental properties
PROP	- EPROP and CALC

Any CA File format may be combined with any substance format to obtain CA references citing the substance. The substance formats must be cited first. The CA File predefined formats are:

ABS	-- Abstract
APPS	-- Application and Priority Information
BIB	-- CA Accession Number, plus Bibliographic Data
CAN	-- CA Accession Number
CBIB	-- CA Accession Number, plus Bibliographic Data (compressed)
IND	-- Index Data

10652797

IPC -- International Patent Classification
PATs -- PI, SO
STD -- BIB, IPC, and NCL

IABS -- ABS, indented, with text labels
IBIB -- BIB, indented, with text labels
ISTD -- STD format, indented

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

The ALL format gives FIDE BIB ABS IND RE, plus sequence data when it is available.
The MAX format is the same as ALL.
The IALL format is the same as ALL with BIB ABS and IND indented, with text labels.

For additional information, please consult the following help messages:

HELP DFIELDS -- To see a complete list of individual display fields.
HELP FORMATS -- To see detailed descriptions of the predefined formats.
ENTER DISPLAY FORMAT (IDE):file caplus
'FILE' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'
'CAPLUS' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'

The following are valid formats:

Substance information can be displayed by requesting individual fields or predefined formats. The predefined substance formats are: (RN = CAS Registry Number)

REG - RN
SAM - Index Name, MF, and structure - no RN
FIDE - All substance data, except sequence data
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SQIDE - IDE, plus sequence data
SQIDE3 - Same as SQIDE, but 3-letter amino acid codes are used
SQD - Protein sequence data, includes RN
SQD3 - Same as SQD, but 3-letter amino acid codes are used
SQN - Protein sequence name information, includes RN

CALC - Table of calculated properties
EPROP - Table of experimental properties
PROP - EPROP and CALC

Any CA File format may be combined with any substance format to obtain CA references citing the substance. The substance formats must be cited first. The CA File predefined formats are:

ABS -- Abstract
APPS -- Application and Priority Information
BIB -- CA Accession Number, plus Bibliographic Data
CAN -- CA Accession Number
CBIB -- CA Accession Number, plus Bibliographic Data (compressed)
IND -- Index Data
IPC -- International Patent Classification
PATs -- PI, SO
STD -- BIB, IPC, and NCL

10652797

IABS -- ABS, indented, with text labels
IBIB -- BIB, indented, with text labels
ISTD -- STD format, indented

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

The ALL format gives FIDE BIB ABS IND RE, plus sequence data when it is available.

The MAX format is the same as ALL.

The IALL format is the same as ALL with BIB ABS and IND indented, with text labels.

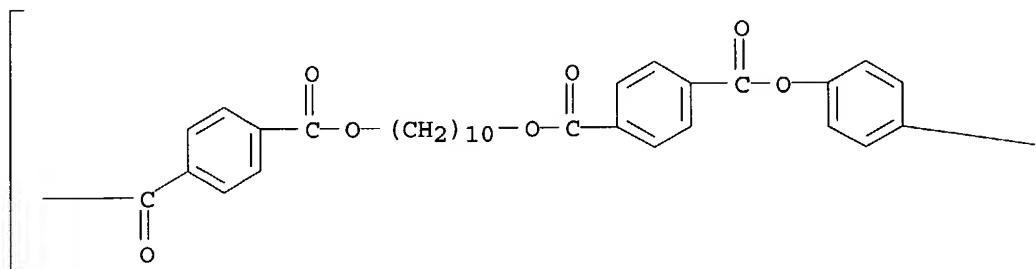
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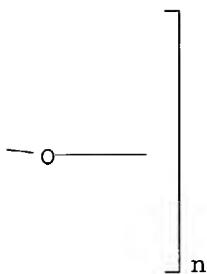
HELP DFIELDS -- To see a complete list of individual display fields.
HELP FORMATS -- To see detailed descriptions of the predefined formats.
ENTER DISPLAY FORMAT (IDE):ide

L16 ANSWER 1 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN
RN 88189-25-7 REGISTRY
CN Poly(oxy-1,4-phenyleneoxycarbonyl-1,4-phenyleneoxycarbonyloxy-1,10-decanediylloxycarbonyl-1,4-phenyleneoxycarbonyl) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 1,10-Bis(p-chloroformylbenzoyloxy)decane-hydroquinone copolymer,
SRU
MF (C32 H32 O8)n
CI PMS
PCT Polyester
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PRP (Properties)
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)

RELATED POLYMERS AVAILABLE WITH POLYLINK

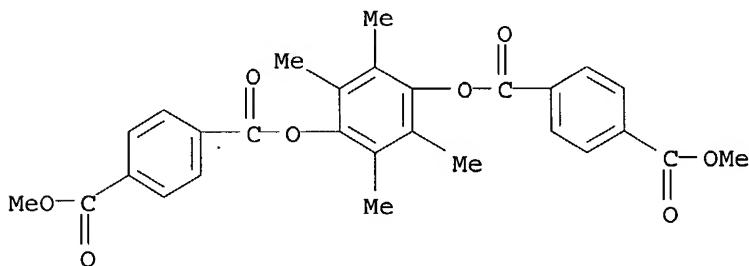
PAGE 1-A





7 REFERENCES IN FILE CA (1907 TO DATE)
 7 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L16 ANSWER 2 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 16868-10-3 REGISTRY
 CN Terephthalic acid, 2,3,5,6-tetramethyl-p-phenylene dimethyl ester (8CI)
 (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Hydroquinone, tetramethyl-, bis(methyl terephthalate)
 OTHER NAMES:
 CN 3,6-Bis(p-carbomethoxybenzoyloxy)-1,2,4,5-tetramethylbenzene
 FS 3D CONCORD
 MF C28 H26 O8
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB
 DT.CA CAplus document type: Patent
 RL.P Roles from patents: USES (Uses)

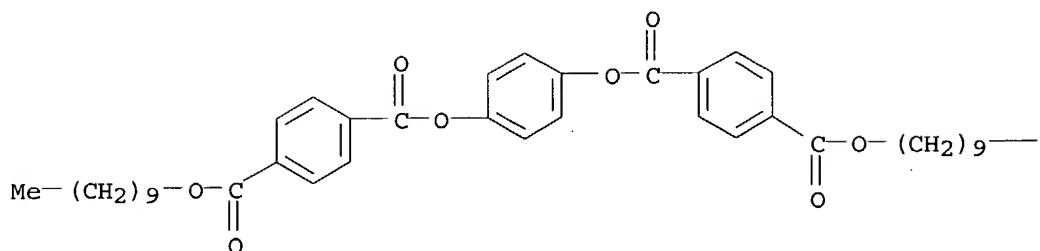


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 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L16 ANSWER 3 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 2292-74-2 REGISTRY
 CN 1,4-Benzenedicarboxylic acid, 1,4-phenylene didecyl ester (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Terephthalic acid, decyl ester, diester with hydroquinone (7CI)
 FS 3D CONCORD
 MF C42 H54 O8
 LC STN Files: CA, CAOLD, CAPLUS
 DT.CA CAplus document type: Journal
 RL.NP Roles from non-patents: NORL (No role in record)

PAGE 1-A



PAGE 1-B

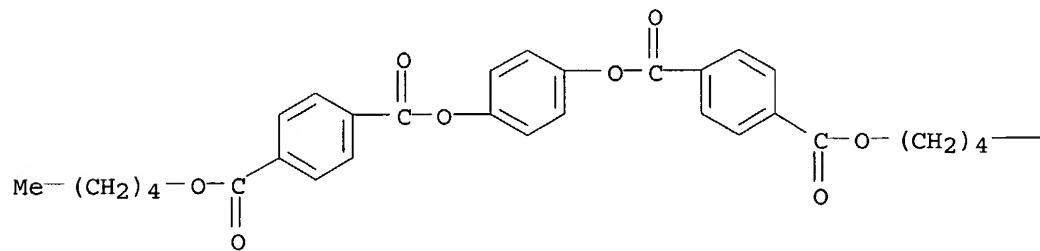
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L16 ANSWER 4 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 1962-77-2 REGISTRY
 CN **Terephthalic acid, pentyl ester, diester with hydroquinone (7CI, 8CI) (CA INDEX NAME)**
 FS 3D CONCORD
 MF C32 H34 O8
 LC STN Files: CA, CAOLD, CAPLUS
 DT.CA CAplus document type: Journal
 RL.NP Roles from non-patents: NORL (No role in record)

PAGE 1-A



PAGE 1-B

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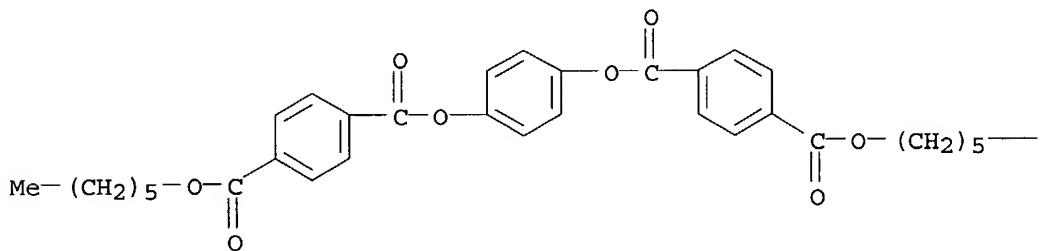
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1 REFERENCES IN FILE CPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L16 ANSWER 5 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN
RN 1819-05-2 REGISTRY
CN 1,4-Benzenedicarboxylic acid, 1,4-phenylene dihexyl ester (9CI) (CA INDEX
NAME)
OTHER CA INDEX NAMES:
CN Terephthalic acid, hexyl ester, diester with hydroquinone (7CI)
CN Terephthalic acid, p-phenylene dihexyl ester (8CI)
FS 3D CONCORD
MF C34 H38 O8
LC STN Files: CA, CAOLD, CPLUS
DT.CA Cplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); NORL (No role in record)

PAGE 1-A



PAGE 1-B

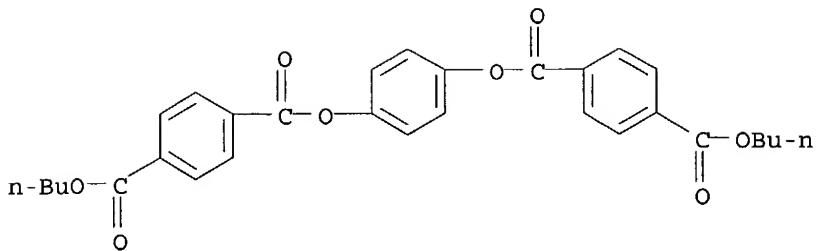
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2 REFERENCES IN FILE CPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L16 ANSWER 6 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN
RN 1819-04-1 REGISTRY
CN 1,4-Benzenedicarboxylic acid, 1,4-phenylene dibutyl ester (9CI) (CA INDEX
NAME)
OTHER CA INDEX NAMES:
CN Terephthalic acid, butyl ester, diester with hydroquinone (7CI)
CN Terephthalic acid, p-phenylene dibutyl ester (8CI)
FS 3D CONCORD
MF C30 H30 O8
LC STN Files: CA, CAOLD, CPLUS
DT.CA Cplus document type: Journal
RL.NP Roles from non-patents: PRP (Properties); NORL (No role in record)

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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L16 ANSWER 7 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 1819-03-0 REGISTRY

CN 1,4-Benzenedicarboxylic acid, 1,4-phenylene dipropyl ester (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Terephthalic acid, dipropyl ester, diester with hydroquinone (7CI)

CN Terephthalic acid, p-phenylene dipropyl ester (8CI)

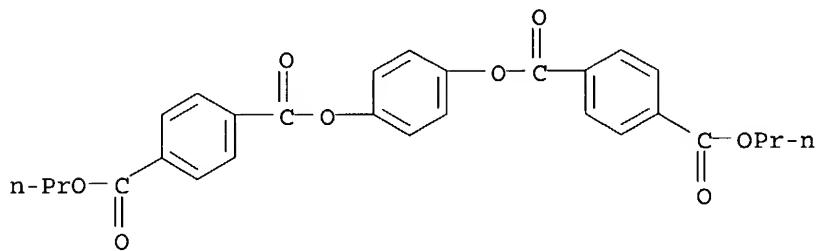
FS 3D CONCORD

MF C28 H26 O8

LC STN Files: CA, CAOLD, CAPLUS

DT.CA CAPLUS document type: Journal

RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties); NORL (No role in record)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L16 ANSWER 8 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 1819-02-9 REGISTRY

CN 1,4-Benzenedicarboxylic acid, 1,4-phenylene diethyl ester (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Hydroquinone, bis(ethyl terephthalate) (8CI)

CN Terephthalic acid, ethyl ester, diester with hydroquinone (7CI)

CN Terephthalic acid, p-phenylene diethyl ester (8CI)

FS 3D CONCORD

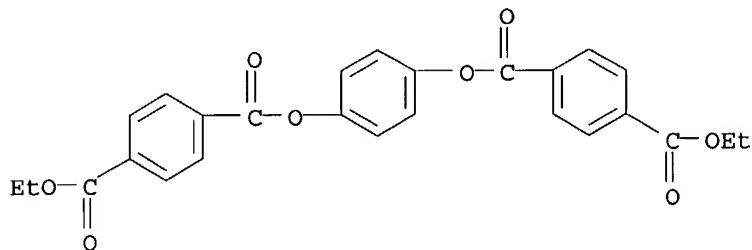
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MF C26 H22 O8

LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)

DT.CA CAplus document type: Journal

RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties); NORL (No role in record)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1907 TO DATE)

3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L16 ANSWER 9 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 1819-01-8 REGISTRY

CN 1,4-Benzenedicarboxylic acid, 1,4-phenylene dimethyl ester (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Terephthalic acid, methyl ester, diester with hydroquinone (7CI)

CN Terephthalic acid, p-phenylene dimethyl ester (8CI)

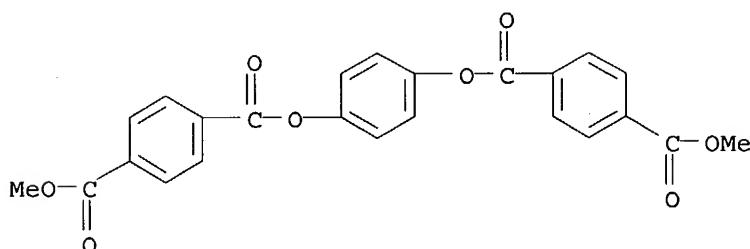
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MF C24 H18 O8

LC STN Files: CA, CAOLD, CAPLUS

DT.CA CAplus document type: Journal

RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties); NORL (No role in record)



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4 REFERENCES IN FILE CA (1907 TO DATE)

4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)